

Self Assessment

*New
edition*

Mo'taz ♥ Se'da
27/4/2011

Differential Diagnosis



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MATARY
SURGERY

WWW.MATARYONLINE.NET

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First Published 2008

2nd Edition 2010

Printed by Life Printing City in Egypt

For further Information, visit our web site:

www.mataryonline.net

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Dedication

*Allah the all merciful, I beg Thee
To accept this effort
For the soul of my mother
She was your gift for me*

Acknowledgement

The author wishes to acknowledge with gratitude:

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DD of Swellings in the Right Hypochondrium*** Causes:****> Parietal Swelling:**☒ **Skin:**

- Hematomas.
- Hemangioma

☒ **S.C tissue:**

- Neurofibrosarcoma

☒ **Muscle layer:**

- Incisional hernia.

- Abscess
- Sebaceous cyst.

- Lipoma.
- Neurofibroma.

- Fibrosarcoma.

> Intraabdominal swellings:☒ **Visceral:**

- **Liver:**

- Liver cirrhosis.
- Cancer.
- Amoebic hepatitis
- Hydatid cyst

- **GB:**

- Mucocele.
- Empyema.
- With malignant obstructive jaundice.
- GB carcinoma.

- **Hepatic flexure: colonic carcinoma.**

- **Rt. Kidney:**

- Hydronephrosis.
- Pyonephrosis.
- Solitary cystic kidney.
- Polycystic kidney.
- Hypernephroma.
- Wilm's tumor.

- **Rt. Suprarenal gland: malignant tumors.**

- **Pancreas: pancreatic pseudocyst.**

☒ **Retroperitoneal sarcoma.***** Diagnosis:****> The most common causes are:**

- ☒ Mucocele of the GB.
- ☒ Pancreatic pseudocyst.
- ☒ Renal cell carcinoma.

Mucocele of the GB**Clinical Picture**☒ **Characterized by: 6 F's patient (Female, Fatty, Forty, Fifty, Fertile, Filthy)**☒ **Past history of biliary stones:**

- Biliary colic, biliary dyspepsia and reflex retrosternal chest pain.
- + attack of cholecystitis.

SELF-ASSESSMENT- PART -II

☒ **Symptoms (of acute cholecystitis):**

- FAHM.
- Pain: 1st diffuse upper abdominal colicky, later localized Rt. hypochondrial dull aching.
- Nausea and vomiting.

☒ **Signs of (acute cholecystitis):**

- Fever and tachycardia.
- Rigidity, tenderness, rebound tenderness in Rt. hypochondrium.
- Special signs: Leak's sign and Boa's sign.

☒ **Signs (of mucocele complication of acute cholecystitis):**

- GB mass: may be difficult to feel due to rigidity.
- Temperature is not as high as in case of empyema.

Investigations

☒ **Laboratory:**

- CBC → PMN leucocytosis (not as high as in empyema).
- LFTs → usually normal.

☒ **Radiological:**

- U/S → stone (sensitivity 97%), distended GB.
- Plain X-ray (AP and lateral views) → stones (sensitivity 10%).
- HIDA scan: most accurate, least practical.

Pancreatic Pseudocyst

Clinical Picture

- ☒ History of acute pancreatitis or abdominal trauma, Du.
- ☒ Small pseudocyst → painless, detected by follow-up with U/S.
- ☒ Large one → upper abdominal which is fixed tender & giving transmitted pulsations swelling, discomfort,

Investigations:

☒ **By radiology:**

- Barium meal (lateral view): forward gastric displacement.
- U/S and CT scan: are the most accurate.

Renal Cell Carcinoma

Clinical picture

- ☒ **More in males. 50 years.**
- ☒ **Hematuria (50%): painless, periodic, and profuse.**
- ☒ **Pain (40%).**
- ☒ **Mass (30%): hard irregular.**
- ☒ **Metastasis to:**
 - Lung → cough and hemoptysis.
 - Skull → deposits.
 - Renal vessels → 2ry varicocele (not relived by elevating the testis).
- ☒ **Paramalignant syndrome e.g. HTN, hypercalcemia, polycythemia.**
- ☒ **Cachetic syndrome.**

Triad (10%) → usually advanced disease.

Investigations

✓ Laboratory:

- Urine analysis → hematuria.
- CBC → anemia, polycythemia, ↑ESR.

✓ Radiology:

- X-ray:
 - Plain X-ray → soft- shadow + obliterated psoas shadow
 - IVP: shows irregular spider leg appearance
 - Ascending pylegram
- U/S:
 - Radiology for metastasis: CXR, isotope bone scan.

DD of Swelling in the Lt. Hypochondrium

★ Causes:

➤ Parietal swelling:

✓ Skin:

- Sebaceous cyst.
- Haemangioma.
- Abscess.
- Haematomas.

✓ S.C tissue:

- Lipoma.
- Neurofibroma.
- Neurofibrosarcoma.

✓ Muscles layer: fibrosarcoma & incisional hernia.

➤ Intraabdominal swelling

✓ Visceral:

- Spleen:
 - Metabolic.
 - Bacterial Infections
 - Tumors.
 - Portal HTN.
 - Blood disease.
 - Cyst.
 - Collagen disease.
- Splenic flexure: carcinoma.
- Lt. kidney:
 1. Polycystic kidney.
 2. Hypernephroma.
 3. Wilm's tumor.
 4. Hydronephrosis.
 5. Pyonephrosis.
 6. Solitary cystic kidney.
- Lt. suprasternal gland: malignant tumors.
- Tail of the pancreas.

✓ Retroperitoneal sarcoma.

★ Diagnosis

➤ The most common causes are:

- 1- Splenomegaly (commonest with portal hypertension).
- 2- Renal cell carcinoma.

Splenomegaly of portal HTN

Clinical Picture

- ☑ **C/P of the cause:** e.g. Bilharziasis or liver cirrhosis
- ☑ **C/P of portal HTN**
 - a. Opening of porto-systemic collaterals.
 - 1- Esophageal and gastric varices → hematemesis, melena and anemia.
 - 2- Caput medusa.
 - 3- Anorectal varices (hemorrhoids).
 - b. Congestion of the GIT → anorexia, dyspepsia and indigestion.
 - c. Ascites.
 - d. Splenomegaly: Lt. upper abdominal swelling, discomfort ± pain.

What are the characters of splenic swelling?

Investigations

- ☑ **Investigations for portal HTN:**
 - **For etiology:** viral markers, liver biopsy.
 - **For liver function:** LFTs → ↓ albumin, ↑ PT, ↑ AST, ↑ ALT.
 - **For esophageal varices:** barium swallow, upper endoscopy.
 - **For ascites:** U/S.
- ☑ **Investigations for splenomegaly**
 - **Laboratory:** CBC → anemia or pancytopenia (with hypersplenism).
 - **Radiology:**
 - U/S.
 - ⁵¹Cr-labelled RBCs isotope study → ↑ spleen/liver index.
 - **Instrumental:** BM examination → hypercellularity.

Renal Cell carcinoma

See before.

DD of Swelling in the Rt. iliac Fossa.

★ Causes:

➤ Parietal Swellings:

- ☑ **Skin**
 - Sebaceous cyst.
 - Haemangioma.
 - Abscess.
 - Haematomas.
- ☑ **S.C tissue:**
 - Lipoma.
 - Neurofibroma.
 - Neurofibrosarcoma.
- ☑ **Muscles layer:** fibrosarcoma.
- ☑ **Incisional and paralytic hernia.**

➤ **Intraabdominal swellings:**

☑ **GIT:**

- Ileum
- Caecum: colonic carcinoma.
- Ileocaecum: ileo-caecal TB, ileo-caecal actinomycosis.
- Appendix: appendicular mass or abscess.

☑ **Tubo-ovarian:**

- Ovarian cyst or tumor.
- Hydrosalpinx or pyosalpinx.
- Tubal pregnancy.

☑ **Uterus:** Fibroid.

☑ **Renal:**

- Ptosed kidney.
- Ectopic kidney.

☑ **Vascular:**

- Rt. Iliac a. aneurom.
- Rt. Iliac LNs:
 - Lymphadenitis: acute and chronic (non-specific and specific e.g TB lymphadenitis)
 - Malignancy: lymphoma and metastatic carcinoma.

☑ **Muscular**

☑ **Retroperitoenal sarcoma or malignant undescended testis.**

★ **Diagnosis**

➤ **Most common causes are:**

- 1- Appendicular mass or abscess.
- 2- Caecal carcinoma.

➤ **Appendicular mass / abscess:**

Clinical picture:

☑ **C/P of appendicitis.**

☞ **C/O:**

- Acute severe pain:
 - 1st ill-localized periumbilical dull aching pain.
 - Later, well-localized Rt. iliac fossa sharp pain.
- Nausea & vomiting.
- Constipation.

☞ **O/E:**

- Fever (not > 40°C unless complicated) & tachycardia.
- Rigidity, Tenderness, Rebound Tenderness in the Rt. iliac fossa.
- Special signs: Rovsing's sign, Psoas sign & obturator sign.

☑ **C/P of appendicular mass (3-4 days later).**

- Abdominal examination → Rt. iliac fossa mass.
- PV → pelvic mass.

☑ **C/P of appendicular abscess (3-4 days later):**

As appendicular mass + very high temperature.

SELF-ASSESSMENT- PART -II

Investigations:

✓ For appendicitis:

▪ Laboratory:

- CBC: leucocytosis
- Urine analysis: to exclude UTI.
- Pregnancy test: to exclude ectopic pregnancy.

To exclude common genitourinary causes

▪ Radiology: U/S.

▪ Instrumental: laparoscopy.

✓ For appendicular mass: U/S.

✓ For appendicular abscess:

▪ U/S

▪ CBC → high leucocytosis.

➤ Caecal carcinoma:

Clinical picture:

✓ More in females

✓ Usually vague presentation:

- Asthenia, Anorexia.
- Recurrent Attacks of Rt. iliac fossa pain..

✓ Rt. iliac fossa mass (common).

✓ Intestinal obstruction (rare, occurs if the lesion obstructs the ileocaecal valve).

Investigations:

✓ Laboratory:

- CBC → anemia (micro/macrocyclic)
- LFTs (for liver secondaries).
- CEA (prognostic rather than diagnostic).

✓ Radiological:

- Barium enema → filling defect or apple core appearance
- U/S or CT scan (for liver 2ries).
- CXR (for lung 2ries).
- IVU (for ureteric involvement).

For tumor spread

✓ Instrumental: colonoscopy & biopsy:

For pts presenting with acute intestinal obstruction (rare)

- CBC, KFTs & electrolytes.
- Plain abdominal X-Ray

D.D of Swelling in the Lt. Iliac Fossa

★ Causes

➤ Parietrtal swelling:

✓ Skin:

- Haematomas.
- Haemangioma.

▪ Abscess

▪ Sebaceous cyst.

✓ S.C tissue:

▪ Lipoma.

▪ Neurofibroma.

▪ Neurofibrosarcoma.

✓ Muscle layer: fibrosarcoma.

✓ Hernia: incisional & paralytic.

➤ **Intraabdominal swelling:**

☑ **Visceral:**

- Pelvic colon:
- Bilharzial mass.
- Pelvic carcinoma.
- Diverticulitis.
- Spastic colon.

☑ **Tubo-ovarian:**

- Ovarian cyst or tumor.
- Hydrosalpinx or pyosalpinx.
- Tubal pregnancy.
- Fibroid.

☑ **Renal:**

- Ptosed kidney.
- Ectopic kidney.

☑ **Vascular:**

- Lt. iliac a. aneurysm.
- Lt. iliac lymphadenopathy:
 - Lymphadenitis: acute & chronic (non-specific & specific e.g. TB lymphadenitis).
 - Malignancy: lymphoma & metastatic carcinoma.

☑ **Muscular:** ileo-psoas abscess.

☑ **Retroperitoneal sarcoma, or malignant undescended testis.**

★ **Diagnosis**

➤ **The most common cause is:**

Pelvic colon carcinoma:

Clinical picture: more common in males.

☑ **Change of bowel habits:**

- Progressive constipation (commonest).
- Diarrhea.
- Constipation alternating with diarrhea.
- Spurious diarrhea.

☑ **Intestinal obstruction (common): acute, subacute or chronic, leading to:**

- Absolute constipation (early).
- Vomiting (late).
- Distention.

☑ **Bleeding per rectum:** common but rarely massive.

☑ **Mass in the Lt. iliac fossa (rare):** usually due to impacted stool.

Investigations:

☑ **Laboratory:**

- CBC → anemia (micro/macrocytic)
- LFTs (for liver secondaries).
- CEA (prognostic rather than diagnostic).

✓ **Radiological:**

- Barium enema → filling defect or apple core appearance
- U/S or CT scan (for liver 2ries).
- CXR (for lung 2ries).
- IVU (for ureteric involvement).

✓ **Instrumental: sigmoidoscopy & biopsy:**

For pts presenting with acute intestinal obstruction (common)

- CBC, KFTs & electrolytes.
- Plain abdominal X-Ray

D.D of Swelling in the Epigastrium

★ Causes

➤ **Parietal swelling:**

✓ **Skin:**

- Haematomas.
- Haemangioma.

S.C tissue:

- Lipoma.
- Neurofibroma.
- Abscess
- Sebaceous cyst.
- Neurofibrosarcoma.

✓ **Muscle layer: fibrosarcoma.**

✓ **Hernia:**

- Incisional hernia.
- Fatty hernia of linea alba.
- Epigastric hernia.

➤ **Intraabdominal swelling:**

✓ **Visceral:**

- **Lt. lobe of the liver:**
 1. Amoebic abscess.
 2. Hydatid cyst.
 3. Malignant nodule (cancer).
 4. Liver cirrhosis.
- **Transverse colon:**
 1. Carcinoma.
 2. Bilharzial colitis.
 3. Diverticulitis.
- **Greater omentum:**
 1. TB peritonitis.
 2. Malignant nodule "Tumor" rare.
- **Stomach:**
 1. Carcinoma.
 2. Epigastric abscess.
 3. Gastric outlet obstruction.
- **Pancreas: pseudopancreatic cyst.**

✓ **Vascular:**

- **Aorta:** abdominal Aortic aneurysm (AAA) but 95% below lvel of renal arteries (i.e in the umbilical region)
- **Aortic L.Ns:**
 1. Lymphadenitis: acute & chronic (non-specific & specific e.g. TB lymphadenitis).
 2. Malignancy: lymphoma & metastatic carcinoma.

✓ **Retroperitoneal sarcoma**

★ Diagnosis

➤ The most common causes are:

- ☑ Gastric carcinoma.
- ☑ AAA.
- ☑ Pseudopancreatic cyst.

Gastric carcinoma:

Clinical picture:

More in ♂ > 50 yrs. Presentation usually falls in 1 of these 5 groups:

- ☑ **Insidious presentation:** with anemia, asthenia & anorexia.
- ☑ **Dyspepsia.**
- ☑ **Cachaxia**
- ☑ **Obstruction:**
 - Cancer at cardia → dysphagia.
 - Cancer at pylorus → vomiting.
- ☑ **Epigastric mass** (usually indicates advanced carcinoma).
- ☑ **Metastasis to:**
 - Liver → hard irregular enlarged liver with jaundice.
 - Peritoneum → ascites.
 - Lt. supraclavicular LN → Troisier's sign.

Investigations:

- ☑ **Laboratory:**
 - **CBC** → micro / macrocytic anemia.
 - **CEA** (for prognosis rather than diagnosis).
- ☑ **Radiology:**
 - Barium meal (inferior to gastroscopy except with linitis plastica).
 - Abdominal U/S (especially for liver 2ries).
 - CT (especially for LN deposits + pre-operative staging).
- ☑ **Instrumental: endoscopy & biopsy (early endoscopy is the key for good result):** may show Irregular filling defect, ulcer niche, Carman minscus sign, linitis plastica

Abdominal aortic aneurysm:

Clinical picture:

- ☑ **Of the cause: e.g atherosclerosis**
- ☑ **Of the aneurysm:**
 - ☞ Asymptomatic in 75%.
 - ☞ Symptomatic: pain (commonest) vague abdominal pain in the flanks & back ache.
- ☑ **Of the complications:**
 - **Rupture** (triad of shock, acute abd.pain,pulsating epigastric mass)
 - **Ischemia due to: thrombosis,empolism,associated atherosclerosis**
 - **Pressure manifestations: nerve: sensory or motor loss.**
Bone: erosion of the vertebra
Vein: obstruction & thrombosis

SELF-ASSESSMENT- PART -II

Investigations: by radiological modalities:

- ✓ **U/S** (for screening).
- ✓ **Spiral CT scan:** accurate investigation to determine the diam.& true extension of aneurysm.
- ✓ **MRI** (alternative to CT scan, more costly).
- ✓ **Arteriography:** doesn't show Diam.of aneurysm shows only patent lumen.
- ✓ **For other systems:** ECG,CBC,lipid profile

Pseudo pancreatic cyst:

See page

D.D of a Swelling in the Umbilical Region

★ Causes

➤ Parietal swelling:

✓ Skin:

- Haematomas.
- Haemangioma.
- Abscess
- Sebaceous cyst.

✓ S.C tissue:

- Lipoma.
- Neurofibroma.
- Neurofibrosarcoma.

✓ Muscle layer: fibrosarcoma.

✓ Umbilical hernia & para-umbilical hernia:

➤ Intraabdominal swelling:

✓ Visceral swellings:

- Stomach:
 1. Gastric carcinoma.
 2. Epigastric abscess.
 3. Gastric outlet obstruction.
- Transverse colon:
 1. Bilharzial colitis.
 2. Diverticulitis.
 3. Carcinoma (rare).
- Greater omentum:
 1. TB peritonitis.
 2. Malignant nodule (rare)
- Mesentery: mesenteric cyst.

✓ Vascular:

- Aorta: abdominal Aortic aneurysm (AAA).
- LNs (Aortic & mesenteric):
 1. Lymphadenitis: acute & chronic (non-specific & specific e.g. TB lymphadenitis).
 2. Malignancy: lymphoma & metastatic carcinoma.

✓ Retroperitoneal sarcoma.

★ Diagnosis

➤ Most common causes are:

- ✓ Para-umbilical hernia.
- ✓ Gastric carcinoma.
- ✓ AAA.

SELF-ASSESSMENT- PART -II

Para-umbilical hernia:

Clinical picture:

More in middle-aged females.

✓ **C/P of predisposing factors**, e.g. multi-parity, obesity, chronic cough...

▪ **Swelling ccc by:**

- Painless unless complicated.
- Mild dragging pain may be present in huge hernia.
- Reducible, unless complicated.
- It is common for para-umbilical hernia to be irreducible or partially reducible.
- Gives expansile impulse on cough, unless strangulated.
- Site: usually above, may be below but never lateral to the umbilicus.
- Shape: spherical.

✓ **C/P of complications**: e.g. strangulation → painful, irreducible, no impulse on cough, tender + C/P of intestinal obstruction.

Investigations:

✓ **It is a clinical diagnosis**, investigations may be:

- **For predisposing factors**, e.g. CXR.
- **Routine pre-operative investigations.**

Gastric carcinoma: see later

Abdominal Aortic aneurysm: see later

D.D of a Swelling in the Suprapubic Region



Causes

➤ Parietal swelling:

✓ **Skin:**

- Haematomas.
- Haemangioma.

✓ **S.C tissue:**

- Lipoma.
- Neurofibroma.

✓ **Muscle layer: fibrosarcoma.**

- Abscess
- Sebaceous cyst.

- Neurofibrosarcoma.

➤ Intraabdominal swelling:

✓ **Visceral:**

- Uterus:
 - Fibroid.
 - Pregnancy: normal, ectopic & vesicular mole.
 - Malignancy: endometrial carcinoma, choriocarcinoma & uterine sarcoma.
 - Pyometra & hematometra.
 - Adenomyosis.
 - Tubo-ovarian:
- Ovarian cyst or tumor.
- Hydrosalpinx or pyosalpinx.
- Tubal pregnancy.

- Urinary system:
 - Full bladder: urinary retention.
 - Malignancy.
 - Ectopic, ptosed or transplanted kidney.
- Sigmoid colon:
 - Bilharzial mass.
 - Pelvic carcinoma.
 - Diverticulitis.
 - Spastic colon.

☑ **Retroperitoneal sarcoma**

D.D of a Swelling in Inguinoscrotal Area



Causes

→ **According to scrotal neck test:**

- A- Purely inguinal
- B- Inguinoscrotal
- C- Purely scrotal.

A-Purely inguinal:

→ According to impulse with cough

- With impulse on cough:
 - Oblique inguinal hernia (OIH) (Bubanocele)
 - Direct inguinal hernia (DIH)
 - Femoral hernia
 - Saphina varix
- Without impulse on cough
 - Solid:
 - LNs enlarged
 - o Inflammatory (acute or chronic)
 - o Malignant (1ry or secondary)
 - Testis:
 1. Retractable
 2. Ectopic
 3. Incompletely descended.
 - Cystic:
 1. Psoas bursa
 2. Femoral a. aneurysm
 3. Cystic LNs enlargement
 4. Hydrocele of femoral hernial sac

B-Inguinoscrotal:

According to impulse on cough

1- With impulse on cough:

- OIH
- Varicoele (primary)

2- Without impulse on cough:

- Solid
 - o Lipoma of the cord
 - o Endemic funiculitis
- Cystic
 - o Congenital hydrocele
 - o Infatle hydrocele of the cord
 - o Encysted hydrocele of the cord
 - o Hydrocele of the hernial sac of OIH

C-Purely scrotal swelling

☒ From the coverings:

- Skin
Boil, sebaceous cyst, epithelioma
- Subcutaneous tissue
Neurofibroma, cellulites
(NB no lipoma → no fat in the scrotum)
- Tunica vaginalis

o Cystic:

- Hematocele
- Vaginal hydrocele
- Chylocele

o Solid

- Clotted hematocele
- Calcified hydrocele

☒ From the contents of testis and epididymis

o Cystic

- Spermatocele
- Epididymal cyst
- Hydatid cyst of morgagni

o Solid

- Inflammatory (chronic specific inflammation as TB and syphilitic gumma)
- Tumors (e.g. seminoma)

★ **Diagnosis**

➤ The most common causes are:

- ☒ Oblique inguinal hernia.
- ☒ Hydrocele.
- ☒ Varicocele (especially 1ry)

Oblique inguinal hernia:

Clinical picture:

☒ C/P of predisposing factors, e.g. chronic cough, constipation.

▪ Purely inguinal swelling ccc by:

- Painless unless complicated.
- Reducible, unless complicated.
- Gives expansile impulse on cough, unless strangulated.
- Site...
- Shape: pyriform.
- Direction of descent: directly downwards forwards and medially..
- Direction of reduction: upwards, laterally and backwards.
- Internal ring test: +ve.

☒ C/P of complications: e.g. strangulation → painful, irreducible, no impulse on cough, tender + C/P of intestinal obstruction.

Investigations:

☒ it is a clinical diagnosis, investigations may be:

- For predisposing factors, e.g. CXR.
- Routine pre-operative investigations.

Primary vaginal hydrocele:

Clinical picture:

☒ **Purely scrotal swelling ccc by being:**

- Painless.
- No impulse on cough.
- Irreducible.
- Shape: pyriform.
- Surface: smooth.
- Trans-illumination: translucent.

Investigations:

☒ **It is a clinical diagnosis, investigations may be done to:**

- Assess the testes, if not palpable: scrotal U/S, if testes are not palpable.
- Routine preoperative investigations.

Varicocele:

Clinical picture:

☒ **History of a predisposing factor: hot weather, chronic constipation.**

☒ **Inguino-scrotal swelling ccc by:**

- Dragging sensation or aching pain.
- Disappears on lying down.
- Fluid thrill on cough.
- **Small secondary vag.hydrocele by pinching test**
- Scrotum of the affected side hangs lower down & it may show varicosities.

☒ **C/P of complications: e.g. hypofertility.**

Investigations:

☒ **For varicocele:**

- Doppler or Duplex: **detects reversed flow.**
- **Scrotal or transrectal US.**
- Pelviabdominal U/S to exclude 2ry varicocele.

☒ **For hypofertility: semen analysis.**

D.D of a scrotal swelling:



causes

A- **Inguinoscrotal** (see before)

B- **Purely Scrotal:** (see before)



Diagnosis

The most common causes are :

- ☒ **oblique inguinal hernia**
- ☒ **Hydrocele**
- ☒ **Varicocele**

Acute scrotum

* Causes:

- 1- Epididymis : acute epididymorchitis
- 2- Testis : orchitis-torsion
- 3- Cord : funiculitis
- 4- Tunica : byocele-hematocoele
- 5- Torsion of hydatid of Morgagni

* Diagnosis:

- 1- Testicular torsion
- 2- Acute epididymorchitis

I- Testicular torsion:

Clinical Picture:

► Symptoms:

History of trauma

- Sudden severe agonizing pain in scrotum
- Testicular swelling
- Reflex symptoms: nausea, vomiting

► Signs:

- General : pallor, sweating, tachycardia
- Local : **scrotum**: swollen, red, tender, dimpling at site of gabrauncum, elevation of scrotum ↑ Pain

Cord : twisting may be felt

Testis : high up, tender

Investigations:

- Doppler: obstructed testicular vessel

II- Acute epididymorchitis :

Clinical Picture:

- History of dysuria of adult or elderly

► Symptoms:

- General : FAHM
- Local : gradual increasing pain which is

Investigations:

- Urine analysis: pus cells
- Doppler: patent vessels

D.D of a Swelling in the Groin (Femoral Triangle)

* Causes

<u>Reducible</u>	<u>Irreducible</u>
▪ Reducible ing.hernia	▪ Irreducible inguinal hernia
▪ Saphena varix	▪ Subcutaneous lipoma
▪ Femoral aortic Aneurysm	▪ Inguinal lymphadenitis
▪ Psoas abscess	▪ Maldescended testis

★ Diagnosis

➤ Most common causes are:

- ☒ Femoral hernia.
- ☒ Saphena varix.
- ☒ Inguinal lymphadenopathy

Femoral hernia:

Clinical picture:

- ☒ C/P of predisposing factors, e.g. chronic cough, constipation.
 - Swelling ccc by:
 - Painless unless complicated.
 - Reducible, unless complicated.
 - Gives expansile impulse on cough, unless strangulated.
 - Site...
 - Shape...
 - Direction of descent: downwards → forwards → upwards.
 - Direction of reduction: downwards → backwards → upwards.
- ☒ C/P of complications: e.g. strangulation → painful, irreducible, no impulse on cough, tender + C/P of intestinal obstruction.

Investigations:

- ☒ It is a clinical diagnosis, investigations may be:
 - For predisposing factors, e.g. CXR.
 - Routine pre-operative investigations.

Saphena varix

Clinical picture:

- ☒ It occurs with varicose veins of the lower limbs.
 - History of:
 - Predisposing factors (in 1ry V.V): ♀, high parity, obesity.
 - A cause (in 2ry V.V): DVT, A-V fistula, pelvic mass.
 - Varicose veins.
 - Swelling, ccc by:
 - Disappears by lying down.
 - Gives a thrill with cough.
 - Site: below & lateral to pubic tubercle.
 - Shape: rounded.
 - Color: bluish.
 - C/P of complications (in 2ry V.V), e.g. edema, eczema.

Investigations:

- ☒ Duplex U/S (of choice)

Inguinal lymphadenopathy:

A. Acute lymphadenitis:

- C/O: painful swelling of short duration, **FAHM**.
- O/E:
 - Enlarged tender matted LNs.
 - Usually apparent source of infection in the catchment's area. Latent abscess may form & the swelling becomes cystic.

SELF-ASSESSMENT- PART-II

B. TB lymphadenitis:

- C/O: manifestations of TB toxemia, slowly growing swelling.
- O/E:
 - Firm matted, enlarged non-tender LNs.
 - Later, a cold abscess may form → finally ruptures leaving a TB sinus.

C. Lymphoma:

- **General:** cachexia, anemia, pel eptien fever, pruritis.
- Enlarged painless LN which are rubbery in consistency, Early discrete later on matted.
- There is usually other LN swellings in the body.
- The spleen may be palpable.
- Biopsy is essential to establish the diagnosis.

D. Metastatic carcinoma:

- LNs are hard & painless.
- Mobile at first & later fixed.
- The 1ry is usually apparent e.g. in the breast.

DD of Acutely Inflamed Swelling In The Groin

- 1- Torsion: in maldescended testis (acute epididymorchitis)
- 2- Strangulated inguinal hernia
- 3- Strangulated femoral hernia
- 4- Acute inguinal lymphadenitis
- 5- Sub. inguinal abscess
- 6- Rupture adductor longus tendon

★ Diagnosis:

1. Torsion (see before)
2. Strangulated inguinal hernia

Strangulated Inguinal Hernia

Clinical Picture:

► Symptoms

- History of painless swelling that become painful
- Picture of intestinal obstruction : projectile vomiting
Abd. pain /distention
Constipation

► Signs:

- **General:** bad general condition, shock ,
- **Local:** no expansile impulse on cough, irreducible, tense, tender

Investigations:

- It is a clinical diagnosis

D.D of a Swelling in the Neck

★ Causes

➤ Midline swellings:

- Large submental LN.
- Dermoid cyst (submental or suprasternal).
- Subhyoid bursitis.
- Thyroglossal cyst.
- Goiter of the thyroid isthmus & pyramidal lobe.
- Peritracheal & perilarngeal LN.
- Laryngocele.
- Ectopic thyroid.



Diagnosis

I- Large submental LN (see below)

II- Thyroglossal cyst

► C/P:

✓ Symptoms:

- Child 6-8 yrs presented by painless swelling in front of the neck, pain only if infected.

✓ Signs:

1. Cystic mass in the mid-line of the neck (by paget's test)
2. Moves with deglutition & protrusion of the tongue & moves from side to side not from above down wards

► Investigations: US → cyst

I- Dermoid cyst

► C/P:

✓ Symptoms:

- Child with slowly growing painless swelling in mid-line either sub-lingual or suprasternal

✓ Signs:

- Lax cystic swelling not attached to skin.

► Investigations: no need (it is a clinical diagnosis)

I- Ectopic thyroid

► C/P:

✓ Symptoms:

- Painless swelling in middle of neck.

✓ Signs:

- Solid mass (by paget test)
- Thyroid moves: with deglutition only
- If lingual : dyspnea, dysphagia, dysarthria
- If retrosternal: pressure manifestation:

► Investigations: - U/S: solid

- TC scan: to confirm whether its only thyroid tissue or not.

➤ Lateral swellings:

✓ Cystic:

- Branchial cyst.
- Pharyngeal pouch.
- Laryngocele.
- Pneumatocele.
- Cystic hygroma.
- Breaking down TB lymphadenitis or malignant LNs.
- Cyst in one lobe of the thyroid gland.

✓ Solid:

- Submandibular salivary gland swellings.
- Submandibular, deep cervical & supraclavicular LN swellings.
- Thyroid gland swellings.
- Bronchogenic carcinoma.
- Carotid body tumor.
- Cervical rib.

✓ Pulsatile:

- Aneurysm of the carotid arteries.
- Aneurysm of the subclavian artery.



Diagnosis

➤ The most common causes are:

- ☒ Submental & submandibular LN swelling
- ☒ Submandibular salivary gland swellings.

Submental & submandibular LN swelling:

A. Acute lymphadenitis:

- C/O: painful swelling of short duration.
- O/E:
 - Enlarged tender matted LNs. → usually apparent source of infection in the catchment's area, e.g. the tongue, lips or teeth... Latent abscess may form & the swelling becomes cystic.

B. TB lymphadenitis: more in children:

- C/O: slowly growing swelling.
- O/E:
 - Firm matted LNs.
 - Later, a cold abscess may form → finally ruptures leaving a TB sinus.

C. Lymphoma:

▶ **C/P:**

- There is usually other LN swellings in the body.
- The spleen may be palpable.

▶ **Investigations**

- Biopsy is essential to establish the diagnosis.

☒ **D. Metastatic carcinoma:**

▶ **C/P:**

- LNs are hard & painless.
- Mobile at first & later fixed.
- The 1ry is usually apparent e.g. in the tongue.

▶ **Investigations**

☒ **Directed to the 1ry lesion.**

Submandibular salivary gland swellings

Submandibular salivary gland swelling is differentiated from submandibular LN swelling on bimanual palpation.

- Salivary gland swelling is solitary & can't be rolled over the edge of the mandible.
 - felt bulging into the floor of the mouth
 - LN swelling → not felt.

☒ **A. Submandibular sialoadenitis:**

▪ C/O:

- Painful swelling.
- Occurs during meals & gradually subsides.

▪ O/E:

- Firm & tender swelling.
- The orifice of the duct → reddish & pus discharged from it on pressing on the gland.
- A stone may be palpable in the floor of the mouth.

▪ X-ray → demonstrate size & position of the stone.

☒ **B. Submandibular salivary tumor:**

▪ **Pleomorphic adenoma :**

- *Symptoms* → painless swelling of the gland which does not ↑ with meals.
- *Signs*: well defined, lobulated, freely mobile, firm cystic in consistency

SELF-ASSESSMENT- PART -II

▪ Carcinoma

- **Symptoms:** rapidly growing swelling manifestation of lingual or hypoglossal N. paralysis
- **Signs** → hard swelling (at 1st mobile → later fixed, infiltration of skin, Vs, Ns).

Another classification for neck swellings

→ A single lump

► In the anterior triangle that doesn't move with swallowing

▪ Solid:

- A lymph gland
- Carotid body tumor

▪ Cystic

- Cold abscess
- Branchial cyst

► In the posterior triangle that doesn't move with swallowing

▪ Solid

- A lymph gland

▪ Cystic

- Cystic hygroma
- Pharyngeal pouch
- Occasionally a secondary deposit of a papillary thyroid carcinoma

▪ Pulsatile:

- Subclavian aneurysm

► In the anterior triangle that moves with swallowing

▪ Solid:

- thyroid gland
- Pretracheal LN (Delphian LN)

▪ Cystic

- Thyroglossal cyst

Solitary Thyroid Nodule

DEFINITION

- It's a clinical diagnosis which refers single thyroid nodule which may be :
 - Discrete: one palpable in otherwise normal thyroid gland.
 - Dominant: Large Palpable Nodule + Multiple Smaller Nodules.

CAUSES

1. Simple nodule.
2. Toxic nodule.
3. Adenoma.
4. Carcinoma.
5. Localized thyroiditis (hashimoto thyroiditis)
6. Thyroid cyst (as hydatid cyst).

DIAGNOSIS (Need Good History, General Local& Examination)

HISTORY

⇒ Personal history:

- **Age, sex:** Cancer is common in old male while secondary thyrotoxicosis Common around 45 years.
- **Residence:** in oasis endemic goiter.

SELF-ASSESSMENT- PART -II

⇒ HPI:

- Swelling in lower part of the neck:
 1. Onset, Course & duration.
 - Slowly progressive within years in S.N.G. or adenoma.
 - Rapid within months in carcinoma.
 2. Other swelling in metastasis.
 3. Effect on the general condition
 - Fever in sub acute thyroiditis.
 - Cachexia in malignancy.
- Toxic symptoms (In Toxic Nodule) e.g. Weight Loss In Spite Of Good Appetite intolerance to Hot Weather & Palpitation.
- Pressure manifestations (especially in malignancy) e.g. dyspnea, dysphagia & hoarseness of voice.
- Pain late malignancy or inflammation or hemorrhage in a nodule of SNG.
- Other Systems
 - Flushing ,diarrhea, bronchospasm in medullary carcinoma
 - Metastatic manifestation e.g. skull module & bone ache

⇒ PH:

- Neck Irradiation in papillary carcinoma.

⇒ FH: In medullary carcinoma (MEN-II-).

EXAMINATION

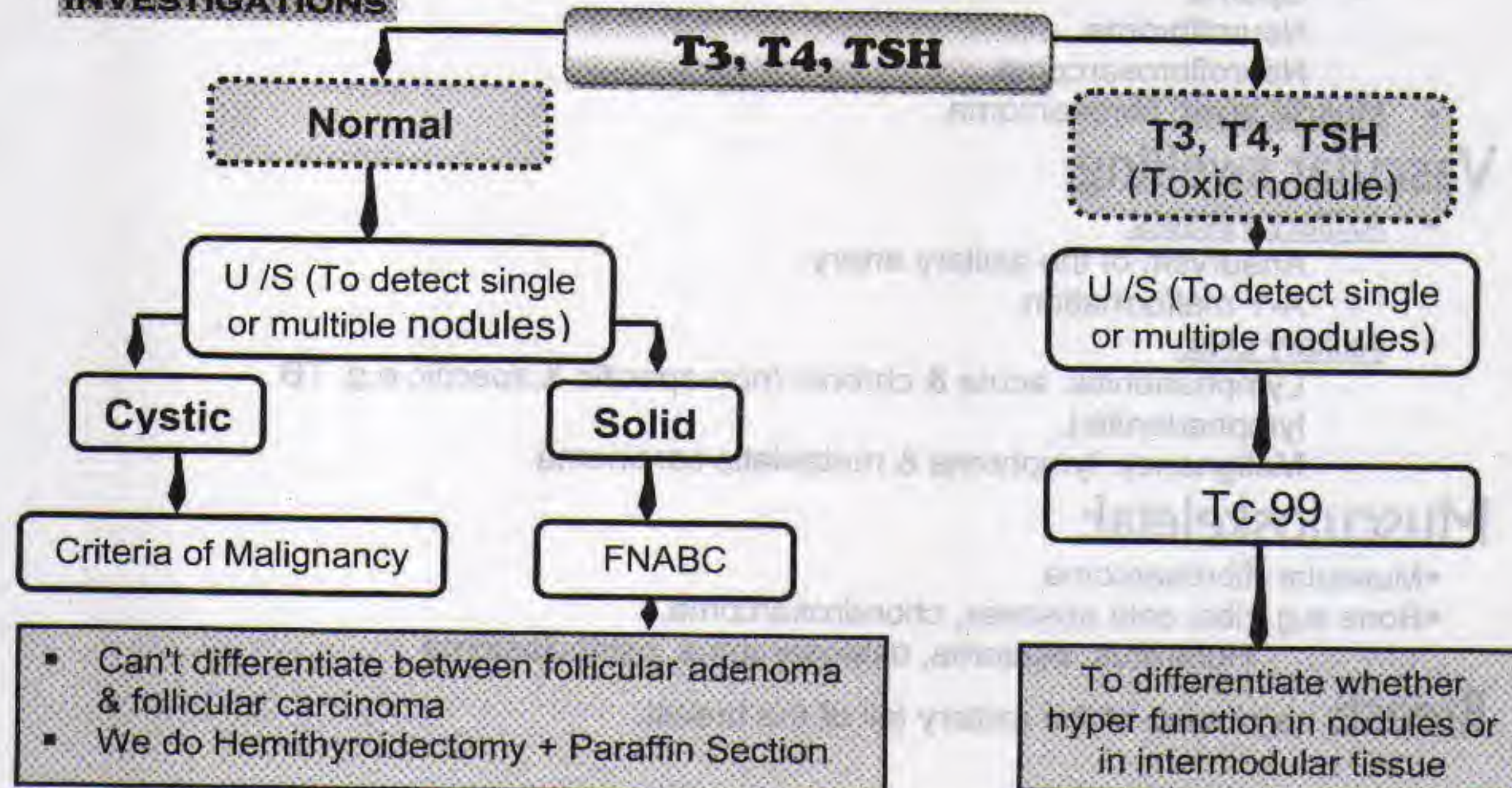
⇒ General:

- a. Signs of toxicity :e.g.
 1. Tachycardia (sleeping pulse > 90).
 2. Eye manifestations e.g. exophthalmos.
- b. Signs of metastasis Skull nodule

⇒ Local:

1. Thyroid Swelling In muscular of the neck moving up & down with deglutition.
 - a- Hard with limited mobility in malignancy
 - b- Flethy & mobile in adenoma & simple nodule.
2. LNS enlargement in malignancy & thyroiditis.
3. Effect on surroundings.
 - Absent carotid pulse (berry 's sign)
 - Stridor on moving trachea(Kocher's)

INVESTIGATIONS



- **Pre-operative investigations:** CBC, FBS, KFT, LFT, ECG, CXR.
- **Staging:** CT, U/S, Bone scan, CXR.
- **Thyroid Antibodies:** in Hashimoto thyroiditis.

TREATMENT

→ According to cause of nodule

A-Toxic nodule:

- if <45 years → Hemithyroidectomy
- If >45 years → Radio-active iodine.

B-Malignant:

⇒ Papillary:

- Total or near total thyroidectomy.
- Cherry picking (of affected L.N. only)
- L-thyroxin (supplementary & to suppress TSH)

⇒ Follicular:

- Total or near total thyroidectomy.
- Radioactive iodine for metastasis
- L-thyroxin (supplementary)

D.D of a Swelling in the Axilla

★ Causes

➤ Parietal swelling:

- Skin:
 - Abscess
 - Sebaceous cyst.
 - Haematomas.
 - Haemangioma.
- S.C tissue:
 - Lipoma.
 - Neurofibroma.
 - Neurofibrosarcoma.
- Muscle layer: fibrosarcoma.

➤ Vascular swelling:

- Axillary vessels:
 - Aneurysm of the axillary artery.
 - A-V malformation.
- Axillary LNs:
 - Lymphadenitis: acute & chronic (non-specific & specific e.g. TB lymphadenitis).
 - Malignancy: lymphoma & metastatic carcinoma.

➤ Musculoskeletal:

- Muscular: fibrosarcoma
- Bone e.g. ribs: cold abscess, chondrosarcoma,
Humerus: osteoma, osteosarcoma, osteoclastoma

➤ Breast: carcinoma of the axillary tail of the breast.

★ Diagnosis

➤ **Most common causes are:** axillary lymphadenopathy due to:

1. Lymphadenitis.
2. Malignancy.

Axillary lymphadenitis:

☑ **A. acute lymphadenitis:**

- **C/O:** painful swelling of short duration.
- **O/E:**
 - Enlarged tender matted LNs.
 - Usually apparent source of infection in the catchment's area, e.g. the breast. Latent abscess may form & the swelling becomes cystic.

☑ **B. TB lymphadenitis: more in children:**

- **C/O:** slowly growing swelling.
- **O/E:**
 - Firm matted LNs.
 - Later, a cold abscess may form → finally ruptures leaving a TB sinus.

Axillary LN malignancy:

☑ **A. Lymphoma:**

- **C/P:**
 - There is usually other LN swellings in the body.
 - The spleen may be palpable.
- **Investigations:**
 - Biopsy is essential to establish the diagnosis.

☑ **B. Metastatic carcinoma:**

- **C/P:**
 - LNs are hard & painless.
 - Mobile at first & later fixed.
 - The 1ry is usually apparent e.g. in the breast.
- **Investigations:** Directed to the 1ry lesion, e.g. breast carcinoma:
 - **Laboratory:** alkaline phosphatase for liver & bone 2ries.
 - **Radiology:** U/S (particularly in young ♀), mammography → dense opacity with speculated ill-defined outline & microcalcification.
 - **Instrumental:**
- **Biopsy** (for histology):
 - Excision biopsy (most accurate).
 - Frozen section (practical).
 - True-cut- needle biopsy.
 - Cytology: FNAC.

D.D of a Swelling in the Popliteal Fossa

★ Causes

➤ Parietal swelling:

☒ Skin:

- Abscess.
- Haematoma.

- Sebaceous cyst.
- Haemangioma.

☒ S.C tissue:

- Lipoma.

- Neurofibroma.

- Neurofibrosarcoma.

☒ Muscle layer: fibrosarcoma.

➤ Vascular:

☒ Popliteal vessels:

- Aneurysm of the popliteal artery.
- A-V malformation.

☒ Popliteal LNs:

- Lymphadenitis: acute & chronic (non-specific & specific e.g. TB lymphadenitis).
- Malignancy: lymphoma & metastatic carcinoma.

➤ Musculoskeletal:

☒ Muscular: (hamstring) fibrosarcoma

☒ Bony: osteoma, osteoclastoma, osteosarcoma

➤ Semi-membranous bursitis.

➤ Baker's cyst.

★ Diagnosis

➤ Most common causes are:

- ☒ 1. semimembranous bursitis.
- ☒ 2. Baker's cyst.
- ☒ 3. Popliteal artery aneurysm.

D.D of Breast Mass



Causes

➤ **Parietal swelling:**

☑ **Skin:**

- Abscess.
- Haematoma.

- Sebaceous cyst.
- Haemangioma.

☑ **S.C tissue:**

- Lipoma.
- Neurofibroma.

- Neurofibrosarcoma.

☑ **Muscle layer: fibrosarcoma.**

➤ **Swelling from the breast tissue itself:**

- **Congenital:** Diffuse hypertrophy of the breast.
- **Involucional:** Fibrocystic disease of the breast.
- **Traumatic:**
 - Breast hematoma.
 - Traumatic fat necrosis
- **Inflammatory:**
 - Acute mastitis & breast abscess.
 - TB of the breast.
 - Duct mastitis.
- **Cystic:**
 - Retention cyst.
 - Galactocoele.
 - Intra-acinar cysts (lymph, blood, hydatid cyst)
- **Neoplastic:**
 - Fibroadenoma & cystosarcoma phylloides
 - Breast carcinoma.

➤ **Retromammary swellings:**

- Retromammary abscess.

➤ **Musculoskeletal swellings:** muscular (fibrosarcoma), skeletal (from ribs).



Diagnosis

➤ **Fibrocystic disease is the most common.**

➤ **Breast carcinoma is the most dangerous.**

Fibrocystic disease of the breast:

Clinical picture:

More in 30-50 yrs.

☑ **Asymptomatic.**

☑ **Symptomatic** (S/S ↑ premenstrual & may disappear after menstruation.

- Lump.
- Mastalgia (cyclic).
- Painful nodularity (commonest complaint): multiple, small, painful unilateral/bilateral nodules.
- Nipple discharge: usually clear or yellow, sometimes brown or green.

SELF-ASSESSMENT- PART -II

Investigations:

Usually clinical diagnosis, investigations may be needed to exclude carcinoma:

- ✓ **Radiology:** U/S or mammography → cysts.
- ✓ **Instrumental:**
 - Aspiration → cytology
 - Biopsy → histology.

Breast cancer:

Clinical picture:

More in old ♀

History: predisposing factors, e.g. F.H. early menarche, late menopause, low parity, obesity...

- ✓ **C/O:**
 - Accidentally discovered lump, painless in most of cases (the commonest presentation).
 - Mild breast pricking pain (less frequent presentation).
 - Late cancer: symptoms of metastasis: axillary lump, dyspnea & hemoptysis, hepatomegaly & jaundice
 - Early cancer: asymptomatic, discovered by screening programs.
- ✓ **O/E:**
 - Local:
 - Breast: asymmetrically enlarged, skin dimpling & puckering, Pau d' orange, skin nodule & ulceration.
 - Mass: hard irregular, ill-defined, immobile with the breast, fixed to the skin.
 - Nipple: retracted, maldirected.
 - Axillary & supraclavicular LNs: for lymphadenopathy.
 - ☐ General:
 - Cachexia.
 - Metastasis: hepatomegaly, ascites, chest examination, PV (for Krukenberg tumor).

Investigations:

- ✓ **Laboratory:** alkaline phosphatase for liver & bone 2ries.
- ✓ **Radiology:** U/S (particularly in young ♀), mammography → dense opacity with speculated ill-defined outline & microcalcification.
- ✓ **Instrumental:**
 - Biopsy (for histology):
 - Excision biopsy (most accurate).
 - Frozen section (practical).
 - True-cut- needle biopsy.
 - FNAC (for cytology)

SELF-ASSESSMENT- PART -II

Another way of enumeration is:

A- Cystic swellings:

1- Arising from the duct system:

- a) Cyst in fibroadenosis
- b) Papillary cystadenoma
- c) Galactoceles

2- Arising from the stroma:

- a) Sebaceous cyst.
- b) Blood cyst
- c) Hydatid cyst
- d) Abscess
- e) Degenerative carcinoma

B- Solid swellings:

1. Small to moderate size:

- a- Early cancer breast
- b- Traumatic fat necrosis
- c- Fibroadenoma

2. Large size:

- a- Late cancer breast
- b- Diffuse hypertrophy
- c- Cystadenoma phylloides

DD of Breast Cyst

★ Causes

I- Acinar: (arises from duct system):

- 1- Fibroadenosis (commonest cause)
- 2- Duct papilloma (blood cyst)
- 3- Galactoceles (obstruction of milk duct)

II- Intra acinar: occurs in the stroma

- 1- Sebaceous cyst
- 2- Traumatic cyst
- 3- Inflammatory (TB, Abscess)
- 4- Neoplastic (degenerating carcinoma)
- 5- Dermoid cyst
- 6- Hydatid cyst

Diagnosis

- ❖ Fibro adenosis is the most common (see before)
- ❖ Breast carcinoma is the most dangerous (see before)
- ❖ Breast abscess

Breast abscess

Clinical Picture:

- **symptoms:** General: FAHM
Local: Throbbing pain
Swelling discharging Pus
- **Signs:** General Hectic fever , tachycardia
Local: Swelling red , edematous & Pus pointing (fluctuation is a late sign)

Investigations:

- TLC, ESR, CRB
- C & S after drainage
- U / S : both Diagnostic & therapeutic (if small single Pus loculi)

Breast Pain (Mastalgia)

It is one of the commonest complaints

★ Causes:

I- mammary (cyclic / non cyclic)

a. physiological

b. pathological :

- Fibroadinoses (commonest)
- Breast abscess
- Trauma
- Sarcoma
- Duct ectasia
- Advanced carcinoma
- Mondor's diseases (superficial thrombophlebitis)

II- Extra mammary:

- Pre mammary (infection of Montgomery glands)
- Retro mammary, e.g. Trietz's syndrome (inflammation of costochondral junction)

★ Diagnosis

The commonest cause is fibroadenosis

➤ see before

Breast abscess

➤ see before

DD Nipple Discharge

★ Causes:

- 1- Physiological : serous discharge during pregnancy
- 2- Pathological : commonest cause is duct ectasia

<u>Causes</u>	<u>Nature</u>	<u>Origin</u>
1- Duct ectasia	Creamy/bloody	One or more duct
2- Fibroadenosis	Brownish/greenish	One or more duct
3- Duct papilloma (commonest cause of bloody discharge)	Bloody	One duct
4- Duct carcinoma	Bloody	One duct
5- Contraceptive pills	Milky/serous	Multiple ducts
6- Hyper prolactinemia	Milky	Multiple ducts
7- Infection	Purulent	More than one duct
8- Trauma	Bloody	

★ Diagnosis

- I- Duct ectasia (the commonest cause)
- II - Fibroadenosis

Duct Ectasia

Clinical Picture:► **Symptoms:**

- Middle aged female (smoker)
 - ✓ May be asymptomatic
 - ✓ Creamy white (blood stained discharge)
 - ✓ Painful swelling if an abscess develops , may be complicated by fistula.

► **Signs:**

- Hard area with skin dimpling, slit like retraction of the nipple

▪ **Characteristics of significant nipple discharge:**

- Spontaneous.
- Persistent.
- Single duct.
- Unilateral.
- Bloody.
- Old age.
- Associated with palpable mass.
- Positive mammography & ultra sound or positive cytology.

Investigations:

- If presented with mass → triple assessment to exclude cancer
- If presented with discharge → Benzidine test to exclude blood
→ Cytology to exclude malignancy

D.D of a Swelling in Parotid Region**Causes**➤ **Parietal swelling:**☑ **Skin:**

- Abscess.
- Haematoma.

☑ **S.C tissue:**

- Lipoma
- Neurofibroma.
- Neurofibrosarcoma.

➤ **Musculoskeletal:**

- ☑ **Muscular (from masseter muscle):** fibrosarcoma, masseter muscle hypertrophy
- ☑ **Bony (from the ramus of mandible),** Burkitt's lymphoma

➤ **Pre-auricular LN swellings:**

- ☑ **Lymphadenitis:** acute & chronic (non-specific & specific e.g. TB lymphadenitis).
- ☑ **Malignancy:** lymphoma & metastatic carcinoma.

➤ **Parotid gland:**

- ☑ **Inflammation:**
 - Acute (viral, bacterial).
 - Chronic (TB, sarcoidosis).

SELF-ASSESSMENT- PART -II

✓ Autoimmune:

- Sjogren's syndrome.
- Benign lymphoepithelial lesion.

✓ Tumors:

▪ **Benign:**

- Pleomorphic adenoma
- Adenolymphoma
- Oncocytoma.
- Monomorphic adenoma.

▪ **Malignant:**

- Mucoepidermoid carcinoma
- Adenoid cystic carcinoma
- Acinic cell carcinoma
- Carcinoma ex pleomorphic adenoma.

★ Diagnosis

➤ The most common causes are:

1. Parotid gland swelling.
2. Pre-auricular LN swellings.

Parotid gland swelling

✓ A. Parotid sialoadenitis:

- **C/O:**
 - Painful swelling.
 - Occurs during meals & gradually subsides.
- **O/E:**
 - Firm & tender swelling.
 - The orifice of the duct → reddish & pus discharged from it on pressing on the gland.
 - A stone may be palpable in the duct.
- **X-ray** → demonstrate size & position of the stone.
- **Sialogram: best in parotid stones as they are radiolucent (filling defect)**

✓ B. Submandibular salivary tumor:

- Pleomorphic adenoma
- ☞ **SYMPTOMS** → painless swelling of the gland which does not ↑ with meals.
- ☞ **SIGNS:** mobile non-tender mass firm/cystic, lobulated, raising lobule of ear, LN not enlarged.
- Carcinoma → hard swelling (at 1st mobile → later fixed).

Pre-auricular LN swellings:

✓ A. Acute lymphadenitis:

- **C/O:** painful swelling of short duration.
- **O/E:**
 - Enlarged tender matted LNs.
 - Usually apparent source of infection in the catchment area... Latent abscess may form & the swelling becomes cystic.

☒ **B. Lymphoma:**

▪ **C/P:**

- There is usually other LN swellings in the body.
- The spleen may be palpable.

▪ **Investigations:**

- Biopsy is essential to establish the diagnosis.

☒ **C. Metastatic carcinoma:**

▪ **C/P:**

- LNs are hard & painless.
- Mobile at first & later fixed.
- The 1ry is usually apparent e.g. in the tongue.

▪ **Investigations:** directed to the 1ry lesion.

D.D of Hematemesis

➤ Definition:

Vomiting of blood (may be bright red blood or coufee ground if the blood is retained for a while in the stomach)



Causes

	Vascular	Inflammatory	Traumatic	Neoplastic
Esophageal causes	Esophageal varices	Reflux esophagitis	Mallory weis syndrome	Esophageal carcinoma
Gastric causes	Hereditary hemorrhagic telangiectasia	Multiple gastric erosions. Acute gastritis. Gastric ulcer.		Gastric carcinoma. Leiomyoma. Gastric polyp.
Duodenal causes	Aorto-duodenal fistula.	Pudendal ulcer		Peri-ampullary carcinoma.

➤ General causes:

- ✓ **Bleeding disorders, e.g.** hemophylia, thrombocytopenia.
- ✓ **Drugs: anticoagulant therapy.**



Diagnosis

- ✓ **Most common causes are:**
 1. Bleeding peptic ulcer.
 2. Bleeding esophageal varices.

➤ Bleeding peptic ulcer:

Clinical picture:

- ✓ **More in middle-aged & elderly ♂.**
 - C/P of a predisposing factor, e.g. Aspirin, smoking.
 - C/P of the ulcer.

	DU	GU
Pain	2-3 hrs after meal Nocturnal & hunger pain.	Shortly after meals.
Nausea & vomiting	May occur, no pain relief	Present, relieves pain.
Appetite	Good	Bad
Weight	May be overweight	Weight loss

Pain is epigastric (if referred to the back, suspect penetration), boring, relieved by antacids (if not, suspect malignancy or penetration).

- C/P of complications, e.g. hemorrhage → hematemesis ± melena.

Investigations:

☒ **For PU:**

- **Laboratory:** to detect H. pylori: breath test, serology, culture from biopsy material.
- **Radiological (less accurate)** serial films are needed to show fixed deformity.
 - GU → ulcer niche, ulcer crater & ulcer notch.
 - DU → fixed trefoil ♣ deformity of the duodenum.
- **Instrumental:** endoscopy (more accurate): mandatory in cases of GU with 8-quadrant biopsy.

☒ **For complications:**

- **Bleeding:** endoscopy (both diagnostic & therapeutic).
- **Perforation:**
 - CXR → air under diaphragm
 - U/S → peritoneal fluid
 - **Gastrograffin meal** (if CXR & U/S fail).
- **Pyloric stenosis:** barium meal → soup dish appearance, endoscopy.
- **For all:** CBC, KFTs, electrolytes.

➤ **Bleeding esophageal varices:**

Clinical picture:

☒ **C/P of portal HTN**

- Opening of porto-systemic collaterals:
 - Esophageal & gastric varices → see below.
 - Caput medusa.
 - Anorectal varices (hemorrhoids).
- Congestion of the GIT → anorexia, dyspepsia, indigestion.
- Ascites.
- Splenomegaly.

☒ **C/P of esophageal varices:**

- Asymptomatic.
- Bleeding:
 - Mild & chronic → iron deficiency anemia.
 - Acute & severe → hematemesis (coffee ground) ± melena ± shock.
 - Very severe → hematemesis (fresh) + fresh bleeding per rectum + shock.

Investigations:

- Investigations for **portal HTN.**
- For **etiology:** viral markers, liver biopsy.
- For **liver function:** LFTs: ↓ albumin, ↑ PT, ↑ AST, ↑ ALT.
- For **splenomegaly:**
 - **Laboratory:** CBC → anemia or pancytopenia (with hypersplenism)
 - **Radiology:**
 - U/S
 - ⁵¹Cr-labelled RBCs isotope study → ↑ spleen / liver index
 - **Instrumental:** BM examination → hypercellularity.
 - For ascites: U/S.
- ☒ **Investigations for esophageal varices.**
 - Barium meal in Trendelenberg position.
 - Endoscopy.

D.D of Bleeding per Rectum



Causes

➤ **Local causes:**

	Vascular	Inflammatory	Traumatic	Neoplastic
Anorectal causes	Hemorrhoids.		Anal fissure	<ul style="list-style-type: none"> • Rectal carcinoma. • Anal carcinoma.
Intestinal causes	<ul style="list-style-type: none"> • Mesenteric infarction • Intussusception • Angiodysplasia. 	<ul style="list-style-type: none"> • Amebic dysentery. • Crohn's disease. • Ulcerative colitis. • Bilharzial colitis. • Diverticular disease. • Meckle's diverticulum. 		<ul style="list-style-type: none"> • Colonic carcinoma. • Colonic & small intestinal polypi (e.g. FPC)
Esophageal & gastro-duodenal causes	Esophageal varices	PU		

➤ **General causes:**

- ☑ **Bleeding disorders, e.g.** hemophilia, thrombocytopenia.
- ☑ **Drugs:** anticoagulant therapy.



Diagnosis

- ☑ **Diverticular disease of the colon** is a common cause of massive bleeding per rectum.
- ☑ **Lt. colonic carcinoma is a common & dangerous** cause of fresh (but not massive) bleeding per rectum.

Diverticular disease of the colon:

Clinical picture:

More in population > 40 yrs.

- ☑ **C/P of a predisposing factor:** constipation.
- ☑ **C/P of diverticulosis:**
 - Asymptomatic (commonest).
 - Recurrent attacks of : lower abdominal pain + distention & flatulence.
- ☑ **C/P of complications:**
 - **Acute diverticulitis** (as appendicitis but on the Lt.): pyrexia, abdominal pain, nausea & vomiting, rigidity, tenderness, rebound tenderness.
 - **Chronic diverticulitis:**
 - C/O: recurrent abdominal pain + mucous & blood per rectum.
 - O/E: tender mass in the Lt. iliac fossa.
- ☑ **Bleeding per rectum** (may be massive).

SELF-ASSESSMENT- PART -II

Investigations:

☒ Radiological:

- Barium enema (best in diverticulosis & chronic diverticulitis)
- Early → saw-tooth appearance
- Late → well-developed diverticulae. It is # in cases of acute diverticulitis.
 - CT scan (best in acute diverticulitis).
 - Angiography (best in cases of bleeding per rectum).

☒ Instrumental:

- Sigmoidoscopy: detect the mouths of diverticulae ± bleeding, exclude carcinoma.

Lt. colonic carcinoma:

See page

D.D of Hematuria

➤ **Definition:**

- ☒ **Presence of blood in urine**



Causes

➤ **Local causes:**

	<u>Vascular</u>	<u>Inflammatory</u>	<u>Traumatic</u>	<u>Neoplastic</u>	<u>Others</u>
Renal causes	Renal infarction	<ul style="list-style-type: none"> Acute glomerulonephritis TB. 	<ul style="list-style-type: none"> Renal stones. Renal trauma. 	<ul style="list-style-type: none"> Hypernephroma. Wilm's tumor. Transitional cell carcinoma. 	Polycystic kidney.
Ureteric causes			<ul style="list-style-type: none"> Ureteric stones. Ureteric trauma. 	Transitional cell carcinoma.	
Bladder causes		Cystitis: Non-specific, specific (TB, bilharzial)	UB stones.	<ul style="list-style-type: none"> Transitional cell carcinoma. Squamous cell carcinoma. 	
Prostatic		TB prostatitis		Prostatic cancer	SPE
Urethral		Urethritis	<ul style="list-style-type: none"> Urethral stones. Urethral injury. 	Urethral neoplasm.	

➤ **General causes:**

- ☒ **Bleeding disorders, e.g.** hemophyilia, thrombocytopenia.
☒ **Drugs:** anticoagulant therapy.



Diagnosis

➤ **The most common causes are:**

- ☒ **1. Urinary stones.**
☒ **2. Senile enlargement of the prostate.**

Urinary stones:

Clinical picture:

More in middle aged ♂:

- ✓ **History of a predisposing factor**, e.g. hot weather, inadequate H₂O intake, foreign body (e.g. ureteric stent), infection, metabolic disorders (hyperthyroidism, gout).
- ✓ **C/P of the stone**: asymptomatic in some cases, e.g. stag-horn stones.

→ **PAIN ACCORDING TO SITE:**

1. Renal stones:

- Dull aching pain in the flanks

2. Ureteric stones:

- Severe agonizing colicky pain in the loin, radiating to the groin, ass. with nausea & vomiting
- If intramural: pain radiating to the tip of penis with desire to micturate ass. with straining.

3. Urinary bladder calculi:

- **Pain**: supra-pubic, referred to groin or perineum, ↑ with micturition, ↓ with recumbency.
- Terminal hematuria.
- Frequency: early during the day, later by day & night (due to cystitis).
- Difficult micturition.
- Acute retention (bladder neck obstruction).

4. Urethral calculi:

- severe urethral pain.
- Difficult micturition.
- acute retention.
- O/E: stone palpated if in the anterior urethra.

→ **SYMPTOMS OF COMPLICATION:**

- Painful hematuria, pyuria, anuria,

→ **SIGNS:**

- **General**: infection, uremia,
- **Local**: tender swelling in the loin, stone in the penile urethra (palpated under the surface of the penis)

Investigations:

- ✓ **Laboratory**: urine analysis → hematuria (gross or microscopic), crystals.

✓ **Radiology:**

- **Plain X-ray (KUB)**: shows 90% of urinary stones
- **US**: shows both radioopaque & radiolucent stones
- **IVU**: - Done if kidney functions are normal
 - To detect radiolucent stones (esp. in the lower end ureter in 10% of the cases)
 - shows back pressure & differential kidney function

- ✓ **For etiology**: serum ca, phosphorus, PTH: for hyperparathyroidism
ca, uric acid in 24hrs urine

Senile enlargement of the prostate:

Symptoms

- ☑ **a-Asymptomatic.**
- ☑ **b-Prostatism:**
 - Frequency (usually the earliest symptom), 1st → nocturnal, later → day & night.
 - Difficult micturition:
 - Difficult to start (hesitancy): straining ↑ obstruction.
 - Difficult to maintain → weak interrupted stream.
 - Difficult to finish → post-voiding dripping.
 - Sexual symptoms: 1st: ↑ libido, later: impotence.
- ☑ **c-Symptoms of complications:**
 - Hematuria.
 - Acute urinary retention (may be the 1st presentation): precipitated by:
 - Women (sexual excitement)
 - Wine (alcohol).
 - Weather (cold).
 - Withholding urine.
 - With infection.
 - Chronic retention with overflow.
 - Complications of obstructive uropathy:
 - kidney: hydronephrosis, renal failure.
 - Ureter: hydroureter.
 - UB: hypertrophy & trabeculation.
 - Infection: pyelonephritis, cystitis.
 - Urinary stones.

Signs

Common > 50 yrs

- General: for complications, e.g. fever, uremia.
- Mass, tenderness in the renal angles.
- Abdominal: suprapubic palpable bladder.
- PR: prostatic enlargement, which is:
 - Smooth.
 - Sft.
 - Symmetrical.
 - Median sulcus preserved.
 - Mucosa of the rectum is mobile over the prostate.
 - The notch between it & the seminal vesicle is preserved.

Investigations

- **Laboratory:** urine analysis → hematuria, KFTs, PAS.
- **Radiology:** trans-rectal U/S, IVP.
- **Instrumental:** cystourethroscopy ± biopsy, urine flowmetry.

D.D of Dysphagia

➤ Defiintion

Difficulty in swallowing



Causes

➤ In the Mouth:

- ☑ Stomatitis, glossitis
- ☑ Neoplasms, and ulcers of tongue and cheek.

➤ In the pharynx:

- ☑ Pharyngitis and tonsillitis.
- ☑ Retropharyngeal abscess.
- ☑ Plummer-Vinson syndrome.
- ☑ Pharyngeal diverticulum.
- ☑ Postcricoid carcinoma.

➤ In the Esophagus:

☑ Lumen:

- Foreign body.

☑ Wall:

- Congenital stenosis.
- Traumatic as corrosive stricture.
- Inflammatory as reflux esophagitis.
- Neoplastic as carcinoma.
- Functional as achalasia.

☑ Compression from outside:

- Malignant thyroid.
- Thoracic aortic aneurysm.
- LNs.

☑ Functional causes:

- Neuritis of glossopharyngeal or vagus nerve.
- Hysterical or bulbar palsy.
- Myasthenia gravis, tetanus, rabies.
- Esophageal motility disorder e.g. corkscrew esophagus.



Diagnosis

➤ The most common causes are:

- ☑ 1. Achalasia.
- ☑ 2. Acaustic stricture.
- ☑ 3. Esophageal carcinoma.

Cardiac achalasia:**Clinical picture:**

→ Female More in 2nd to 4th decades.

- **Dysphagia ccc by:**
 - Onset: insidious.
 - Course: initially intermittent, but later constant.
 - Duration: long
 - More to fluids, especially at night.
- **Regurgitation, halitosis**
- **General:** bad nutritional status, dehydration, Pulmonary symptoms: cough & wheezes.
Loss of weight: not prominent.

Investigations:

- ☑ **Radiology:**
 - **CXR** → absence of the gastric air bubble, widening of the mediastinum.
 - **Barium swallow:** early delayed gastric emptying, later on sigmoid Oes+ parrot peak appearance
- ☑ **Instrumental:**
 - Manometric study: disorganized peristalsis, pr. in the high pressure zone > 25mmhg
 - Esophagoscopy: for diagnosis (shows wide red Oes. filled with dirty water)+ exclusion of malignancy.

Esophageal carcinoma:**Clinical picture:**

More common in ♂ > 50:

- ☑ **Dysphagia ccc by:**
 - Rapidly progressive, to solids > fluids with excessive salivation, regurgitation, loss of Wt. & appetite
 - **Signs:**
 - G: cachexia dehydration, chest infection
- ☑ **Pulmonary symptoms:** Cough & wheezes.
- ☑ **Loss of weight:** prominent.
- ☑ **C/P of spread:**
 - Local → change of voice, chocking, paralysis of diaphragm, fatal hematemesis
 - Distant → pleural effusion, ascites, jaundice, hepatomegaly.

Investigations:**I- For diagnosis**

- Esophygope: early endoscopy is the key for good result + biopsy + cytology
- Ba swallow: shows rat tail, shouldering, or irregular filling defect

II- For staging

- Endoluminal US (invasion)
- CXR (pul. complication)
- CT scan, bone scan
- Fluoroscopy
- Bronchoscopy
- Indirect laryngoscopy(if in the upper part)

Corrosive esophageal injury:**Clinical picture:**

More in children

- ✓ **History of caustic agent drinking.**
- ✓ **Associated burns to lips, tongue & oropharynx.**
- ✓ **Odynophagia.**
- ✓ **Dysphagia: ccc by:**
 - **Onset:** acute.
 - **Course:** stationary.
 - **Duration:** long.
 - **More to solids.**
 - Regurgitation.
 - Failure to thrive.
 - **Pulmonary symptoms:** cough & wheezes.

Investigations:

- **Radiology:** barium swallow → multiple irregular strictures.
- **Instrumental:** esophagoscopy.

D.D of Dyspepsia➤ **Definition:**

Discomfort related to meals.

**Causes**

- ✓ **Esophageal causes:**
 - GERD.
- ✓ **Gastric causes:**
 - Chronic gastric ulcer.
 - Chronic gastritis.
 - Gastric carcinoma
- ✓ **Duodenal causes:**
 - Chronic duodenal ulcer.
 - Duodenitis.
- ✓ **Biliary causes:**
 - GB stones.
 - Chronic cholecystitis.
 - GB carcinoma.
- ✓ **Pancreatic causes:**
 - Chronic pancreatitis.
 - Pancreatic carcinoma.
- ✓ **Congestive dyspepsia** (portal HTN)
- ✓ **Appendicular dyspepsia** (chronic appendicitis)
- ✓ **Colonic dyspepsia** specially CA caecum

**Diagnosis**

- ✓ **PU is the most common.**
- ✓ **Gastric carcinoma is the most dangerous.**

Peptic ulcer:

➤ See page

Gastric carcinoma:

➤ See page

D.D of Anal Pain

Causes

- ☒ Anal fissure.
- ☒ Prolapsed strangulated piles.
- ☒ Perianal suppuration.
- ☒ Acute perianal hemorrhoids.
- ☒ Carcinoma of the anus.
- ☒ Proctalgia fugax.

Diagnosis

➤ The most common causes are:

1. Anal fissure.
2. Anorectal abscess.

Anal fissure:

Clinical picture:

More in middle aged women.

- ☒ C/P of predisposing factor, e.g. constipation.
- ☒ C/P of fissure:
 - Pain:
 - Onset: suddenly at defecation.
 - Offset: suddenly: about 1 hr after defecation.
 - CCC: sharp agonizing.
 - Course: course: may have remissions for days/weeks.
 - Constipation (to avoid pain)
 - Bleeding: slight streaks on surface of stools.
 - Slight anal discharge.
 - Reflex symptoms: dysuria, dysmenorrhea
- ☒ signs:
 - In acute cases:
 - By inspection:
 - tightly contracted anal verge, puckered anus
 - Small tear may be seen by gently separating the gluteal folds
 - DRE: better to be avoided because it's very painful
 - In chronic fissure:
 - By inspection:
 - Fissure can be seen, anal papille or sentinel pile can be seen
 - DRE: fissure is fibrotic & indurated, sphincter is fibrosed.

Investigations:

- ☒ It is a clinical diagnosis, investigations may be done for:
 - exclusion of D.D or 2ry causes, e.g. crohn's disease.
 - Routine pre-operative investigations.

Anorectal abscess:

Clinical picture:

☒ **Symptoms:**

- **General:** FAHM
- **Local:** throbbing perianal pain inc. by movement & interferes with sitting or walking.

☒ **Signs:**

- General: fever & tachycardia.
- Local: red, hot & tender swelling.

NB: pain & constitutional symptoms are not marked.

Investigations:

- ☒ **Laboratory:** CBC → PMN leukocytosis.
- ☒ **Radiology:** U/S → for pelvirectal abscess.

D.D of Acute abdomen

★ **Causes**

➤ **Group 1: Thoracic problems:**

- ☒ Rt. Pneumonia:
- ☒ Marked chest symptoms, minimal abdominal tenderness and there is no rigidity.
- ☒ Tonsillar tummy:
- ☒ Child with acute tonsillitis □ swallows pus □ abdominal colic.
- ☒ Diaphragmatic pleurisy.
- ☒ Myocardial infarction.

➤ **Group 2: Upper Abdominal problems:**

- ☒ **Perforated Peptic Ulcer:**
 - History of dyspepsia is present.
 - Plain X-Ray shows air under the diaphragm.
- ☒ **Acute Cholecystitis:**
 - Pain in the right hypochondrium
 - Fever is higher.
 - U/S will confirm the diagnosis.
- ☒ **Intestinal Obstruction:**
 - Repeated vomiting.
 - Absolute constipation.
 - Multiple fluid levels in X-Ray abdomen erect.

➤ **Group 3: Lower Abdominal Problems:**

- ☒ **Non-specific Mesenteric Lymphadenitis:**
 - Common in children.
 - There is shifting tenderness
- ☒ **Regional ileitis.**
- ☒ **Deep iliac adenitis:**
 - Child with septic focus in LL
 - Pain in iliac fossa, psoas spasm
 - Flexion deformity, high fever and O/E
 - Tender nodular fixed mass in iliac fossa very close to inguinal ligament.

SELF-ASSESSMENT- PART -II

☒ **Mickle's Diverticulitis.**

☒ **Perforated ileal typhoid ulcer:**

- History of typhoid, tenderness all over the abdomen X-Ray ☐ free gas in peritoneum (erect ☐ gas under diaphragm).

➤ **Group 4: Pelvic problems:**

☒ **Disturbed right ectopic pregnancy:**

- History of amenorrhea.
- Shock.
- Vaginal bleeding.
- Tender cervix.

☒ **Acute salpingitis:**

- Fever, vaginal discharge, tenderness often bilateral.

☒ **Midcyclic pain (Mittelschmerz)**

☒ **Twisted right ovarian cyst from appendicular mass.**

☒ **PID:**

- Vaginal discharge, bilateral pain, mass felt on PV

➤ **Group 5: Urological problems:**

☒ **Right ureteric coli:**

- Pain from loin ☐ groin, pain does not increase with cough, patient writhing on himself while in appendicitis patient lies flat as movement increases pain.

☒ **Rt. Pyelonephritis:**

- Fever 40°C + rigors, tender pain, dysuria.

➤ **Group 6: Neurological Problems:**

☒ **Disease of the spine:**

- Acute osteomyelitis & Pott's of dorsolumbar vertebrae.

☒ **Herpes Zoster in 10th, 11th, 12th thoracic nerves.**

☒ **Others:**

- Diabetic abdomen.
- FMF.



Diagnosis

➤ **The most common causes are:**

☒ **1.Acute appendicitis.**

☒ **2.Acute cholecystitis.**

Acute appendicitis:

➤ See page

Acute cholecystitis:

Clinical picture ccc 6 F's patient:

(Female, Fatty, Forty/Fifty, Fertile, Filthy)

- ✓ **C/P of biliary stones:** biliary colic, biliary dyspepsia & reflex retrosternal chest pain ± attack of cholecystitis:
- ✓ **Symptoms:**
 - FAHM
 - Pain: 1st diffuse upper abdominal colicky, later, localized Rt. Hypochondrial dull aching.
 - Nausea & vomiting.
- ✓ **Signs:**
 - Fever & tachycardia.
 - Rigidity, tenderness, rebound tenderness in the Rt. Hypochondrium.
 - Special signs: Leak's sign & Boa's sign.
 - GB mass: may be difficult to feel due to rigidity.

Investigations:

- ✓ **Laboratory:**
 - **CBC** → PMN leucocytosis.
 - **LFTs** → usually normal.
- ✓ **Radiological:**
 - **U/S** → stone (sensitivity 97%), distended GB.
 - **Plain X-Ray (AP & lateral views)** → stones (sensitivity 10%).
 - **HIDA scan:** most accurate, least practical.

DD of Swelling from the Anus

➤ Prolapsed swellings:

1. Piles.
2. Rectal polyps
3. Rectal prolapse
4. Prolapsed intussusception

➤ External swellings:

1. External piles
2. Abscess
3. Post-anal dermoid cyst.
4. Carcinoma of the anus
5. Condylomas

DD of Chest Wall Swellings

- ✓ **Skin:**
 - Hemangioma, hematoma, sebaceous cyst, abscess
- ✓ **Subcutaneous tissue:**
 - Lipoma neurofibroma, neurosarcoma
- ✓ **Intercostal muscles**
 - Rhabdomyoma - rhabdomyosarcoma
- ✓ **Ribs**
 - Chondroma- chondrosarcoma, osteoma, osteosarcoma, osteomyelitis
- ✓ **Intercostal a. aneurysm**
- ✓ **Others:**
 - Chronic empyema necessitans
 - Cold abscess
 - Surgical empyhesma

DD of swellings of the back

- ✓ **Skin:**
 - Hemangioma, hematoma, sebaceous cyst, abscess
- ✓ **Subcutaneous tissue**
 - Lipoma neurofibroma, neurosarcoma
- ✓ **Back muscles**
 - Rhabdomyoma - rhabdomyosarcoma
- ✓ **Midline specific swellings**
 - Meningocele
 - Spina bifida
 - Sacrococcygeal teratoma
- ✓ **Lateralized swellings:**
 - Lumbar hernia
- ✓ **Others:**
 - Cold abscess

Miscellaneous topics**Jaundice****★ Definition**

- Yellowish discolouration of sclera, mm & body fluids due to excess Bilirubin in blood.

TYPES

- I- hemolytic Jaundice(rise of indirect Bil): e.g. hemolytic anemias
- II- Hepatocellular Jaundice(biphasic rise of Bil) e.g. viral hepatitis, liver cirrhosis, toxins, infections
- III- Obstructive Jaundice(rise of direct Bil):
 - a. Intrahepatic: e.g. viral hepatitis, liver cirrhosis, drugs.
 - b. Extrahepatic:
 - 1. Lumen: calcular obstructive jaundice
parasitic infestation as ascaris
 - 2. wall: (stricture of the CBD):
 - Cong: Biliary atresia
 - Acquired: sclerosing cholangitis, Postoperative, cholangiocarcinoma
 - 3. pr. from outside:
 - 1ry tumor: CA head of pancreas, periampullary carcinoma
 - Secondaries: in LN (porta hepatis) from 1ry neoplasm

★ Diagnosis**I – Calcular obstructive jaundice****CLINICAL PICTURE****Type of patient**

- female, fatty, fertile, filthy, fourty
 - jaundice: sudden onset, intermittent course, green olive, associated with dark urine & clay coloured stoles
 - Biliary colic: colicky pain in the right hypochondrium merdiating to the Rt. shoulder, increases by fatty meals & decreases by anti-spasmodic, if associated with fever (ascending cholangitis)
 - Itching
 - bleeding tendency

Signs:

- General itching marks, purpra & echymosis, LN not enlarged
- Local: + ve Murphy sign, GB not distended

INVESTIGATIONS**A. For diagnosis:**

- LFT s: inc. total & direct Bil., alkaline phosphatase, prolonged PT.
- Abd.u/s: stone in CBD or dilated CBD
- GB shrunk+fibrotic+stones
- ERCP: both diagnostic & therapeutic (esp. in obstructive jaundice with suspected lesion in lower end of CBD)
- PTC: (if failed ERCP) esp.with suspected lesion in the upper end of CBD

B. Others:

- MRCP
- CBC (to exclude hemolytic anemia , inc.TLC in cholangitis), KFT (for hepatorenal failure).

II - Malignant obstructive jaundice :

CLINICAL PICTURE

→ **Type of patient:**

- Male ,old age

→ **Symptoms:**

- jaundice: painless, gradual onset , rapidly progressive course , green olive, associated with dark urine & clay coloured stools(silvery stools with pre-ampullary carcinoma)
- Pain only in late cases: dull aching in the epigastrium radiating to the back, inc.by lying down, dec.by leaning forward
- Itching
- bleeding tendency
- weight loss

- **Signs:** General: cachexia, enlarged supra clavicular LN, metastatic manifestations , itching marks, purpura & ecchymosis .
Local: distended GB, enlarged liver, malignant ascitis

INVESTIGATIONS

a. For diagnosis:

- LFTs: increase total & direct bilirubin, alkaline phosphatase, prolonged PT.
- Abdominal u/s: mass in the head of pancreas
- ERCP: to exclude stone, may show malignant stricture

b. For staging :

- CT Scan : mass in the head of pancreas , metastatic LN
- Endoluminal US: to show direct extension
- follow up : tumor marks (CEA, POFA, PCAA)
Ba meal (widen C-curve , inverted 3-shaped)

c. Other: KFTs

DD Leg /foot ulcers

★ Causes

- 1- Chronic traumatic ulcer : e.g. wounds , burns , irradiations, bed sores .
- 2- Inflammatory ulcers: - Chronic osteomyelitis
→ Chronic specific ulcer (rare): TB, \$, actinomycosis
- 3- Neoplastic ulcers:
→ 1 ry skin tumor : • Squamous cell carcinoma
• Malignant melanoma
→ Malignant ulcer on top of chronic benign ulcer
→ Ulcerating deep malignancy as osteosarcoma , fibrosarcoma
- 4- Vascular ulcer: ischemic – venous – lymphedema
- 5- Neuropathic ulcers: e.g. diabetic foot ulcer
- 6- Blood disease : sickle cell crisis
- 7- Autoimmune disease : SLE, Rh.arthritis

★ Diagnosis

- 1- Venous ulcer: the commonest ulcer in the leg.
- 2- Ischemic ulcer
- 3- Neuropathic ulcer

I- Venous ulcer:

CLINICAL PICTURE

- a. Of the cause: - DVT (classical triad of → pain, swelling, tenderness)
- Varicose veins: dull aching pain & heaviness of LL especially with prolonged standing & relieved by elevation of LL.
, but in 50% of cases , no manifestation of VV & the Ulcer is due to incompetent ankle perforators only.
- b. C/P of the ulcer:
 - **Site:** in the gaiter area just above the medial malleolus
 - **Number:** usu. Solitary
 - **Floor:** infected ulcer → dirty granulations tissue
non-infected ulcer → healthy granulation tissue
 - **Base:** indurated
 - **Edge:** at 1st irregular & sloping then punched out.
 - **Margin:** pigmented
 - **LN:** +ve if 2ry infection

INVESTIGATIONS

- For the cause: Doppler, Duplex & Biopsy if suspecting malignancy

II- Ischemic ulcer:

CLINICAL PICTURE

- Type of patient: male 50 Yrs, obese, DM, HTN.
- a. Of the cause: (chronic ischemia):
 - claudication pain(inc. by walking, relieved by rest)
 - Rest pain(burning pain in the dorsum of the foot awakens patient from the sleep)
 - Associated symptoms: e.g. IHDs (angina pectoris)
- b. Of the ulcer: pale cold ischemic limb with trophic changes.
 - **Site:** between the toes, in the dorsum of the foot or around the maleoli
 - **Number:** usu. solitary may be multiple
 - **Floor:** infected ulcer → dirty granulations tissue
non-infected ulcer → healthy granulation tissue

SELF-ASSESSMENT- PART -II

- **Base:** difficult to be palpated (very tender)
- **Edge:** punched out.
- **Margin:** hyperemic
- **LN:** +ve if 2ry infection

INVESTIGATIONS

- **For the cause:** Doppler, Duplex: shows ↓ blood flow
Angiography: pre-operative especially if ulcer resistant for healing
- **For other systems:** CBC, ECG, Lipid profile.

III- Neuropathic ulcer:

CLINICAL PICTURE

- **Type of patient:** history of neurological lesion e.g P.N, N. injury, D.M.
- **Of the ulcer:** painless ulcer
 - **Site:** sole of the foot, at the ball of the big toe or the heel.
 - **No:** usually solitary may be multiple
 - **Floor:** infected ulcer → dirty granulations tissue
non-infected ulcer → healthy granulation tissue
 - **Base:** deep penetrating to the under lying bone & joints.
 - **Edge:** punched out.
 - **LN:** +ve if 2ry infection

INVESTIGATIONS

- **For the cause:** FBS, EMG, C&S if discharging pus.

DD of Painful Limb

★ Causes

- 1- Traumatic: fracture – dislocation – crush injury
- 2- Vascular : acute ischemia (embolism , thrombosis)
:DVT
: chronic ischemia (intermittent claudication)
- 3- Infective: cellulitis – osteomyelitis – myositis – septic arthritis
- 4- Inflammatory : Rh.arthritis – ankylosing spondylitis
- 5- Degenerative : osteo arthritis- baker's cyst
- 6- Neurological : sciatica – P.neuropathy
- 7- Metabolic : Gout
- 8- Miscellaneous : cramp

★ Diagnosis

- 1- Acute ischemia: the most serious.
- 2- Chronic ischemia
- 3- DVT

I- Acute ischemia

CLINICAL PICTURE

- **Of the cause:** - Embolism : AF, other systems (painless hematuria, hemiplegia, MVO)
- Thrombosis: intermittent claudication, other systems e.g. IHDs
- History of trauma
- **Of ischemia:** 6 Ps: - Pain (is the cardinal symptom), sudden severe pain in the most peripheral part of the limb
 - Pulseless
 - Progressive coldness
 - Palor
 - Paralysis
 - Parasthia } late sign
- **Of complications :** gangrene-chronic ischemia – Volkmann ischemic contracture

SELF-ASSESSMENT- PART -II

INVESTIGATIONS

- **For diagnosis:** Doppler , duplex: absent BL.flow distal to the site of occlusion
Angiography: block of main tree, no or minimal collaterals
- **For the cause:** ECG , echo , US
- **For complications** (Ms. necrosis) increased TLC,CPK

II-Chronic ischemia:

CLINICAL PICTURE

- **Of the cause:** - Atherosclerosis: male>50 yrs- DM, obese ,HTN
- Burger: male 20-40 Yrs , heavy smoker
- **Of chronic ischemia:**
 - **Symptoms**
 - 1- **Pain:** - Claudication pain: cramp like pain mainly in the calf Ms inc. by walking & exercise & dec. by rest only
- Rest pain: burning pain in the dorsum of the foot awakens patient from sleep , relived by uncovering limb & putting it in a dependent position
 - 2- **Other systems:** IHDs (angina), Leriche syndrome , post cibial angina
 - **Signs**
 - 1- Skin: pale, cold, trophic changes (loss of hair, thin, trophic, with ulcer resistant for healing)
 - 2- nails brittle
 - 3- Muscle weakness
 - 4- Nerves: sensory manifestations, motor weakness
 - 5- Arteries: weak pulsation
 - 6- veins : migrating superficial thrombophlebitis (in burger's only)

III- DVT:

CLINICAL PICTURE

- History of pelvic surgery, prolonged recumbency malignancy , previous DVT
- **Symptoms:**
 - Mostly associated symptomatic, 1st presentation by PE.
- **Signs:**
 - **General**
 - Unexplained fever , tachycardia out of proportion to fever (3-7 day post operative)
 - **Local**
 - Pain: aggravated by Ms exercise
 - Swelling : most reliable physical sign.
 - Tenderness: on grasping the calf Ms.
- **Of complications:**
 - Pulmonary embolism (dyspnea, severe chest pain, cough , hemoptysis , if obstructing major branch of pulmonary A. → Rt. sided failure

INVESTIGATIONS

(Once suspected diagnosis must be confirmed or excluded by accurate investigations)

- **For diagnosis of DVT:**
 - Doppler, Duplex : ► if complete obstruction → dead silence
► if partial obstruction → loss of augmentation
 - Spiral CT (most accurate)
- **For PE:** CXR , spiral CT, ventilation / perfusion scan, arterial BL. gases
- **For recurrent DVT:** measure protein C, S, antithrombin III , lupus anticoagulant , factor V (leiden)

DD of Swollen Limb

★ Causes

i- Unilateral

▶ Acute

- DVT
- Lymphedema(acute flaria)
- Cellulitis
- Rupture Baker's cyst

▶ Chronic

- Varicose veins
- Chronic flariasis
- Neuro fibromatosis elephantiasis
- Congenital: A-V fistula (local gigantism)

ii- bilateral (causes of generalized edema)

- Hepatic
- Cardiac
- Renal
- Nutritional
- Angioneurotic

★ Diagnosis

1. DVT :Most serious (see before)
2. Varicose veins

Varicose veins

CLINICAL PICTURE

☞ Symptoms:

- Cosmetic disfigurement, aching discomfort, complications(pig., itching, ulcer)

☞ Signs:

➔ History suggestive of DVT

▪ General

➔ Water hammer pulse, bl. pr. (with A_V fistula), dilated Vs crossing inguinal region

▪ Local

- ➔ Thrill on cough (on blow out)
- ➔ Fegan sign (facial defect)
- ➔ Superficial thrombophlebitis → firm cord like tender

INVESTIGATIONS

- For VV: Doppler, Duplex: reversal of the bl. flow, incompetent valves
- For complication: Arteriography : A-V fistula , Biopsy from ulcer if suspecting Malignancy

Pediatric Emergencies

★ Causes

1. **Esophagus:** esophageal atresia, tracheoesophageal fistula

2. **Stomach:** CHPS

3. **Intestine:**

→ Acute intestinal obstruction:

- **Dynamic:** Lumen: meconium ileus, meconium plug syndrome
Wall: duodenal atresia, jejunal atresia, ileal atresia, colonic atresia
 - Annular pancreas
 - Cong. megacolon (Hirschsprung ds)
 - Ileoileal intussusception
 - Imperforate anus
- Outside: Volvulus neonatorum, irreducible congenital hernia
- **Adynamic:** NEC, septicemia
 - Congenital diaphragmatic hernia
 - Congenital umbilical Hernia

★ Diagnosis

- 1- Congenital esophageal atresia
- 2- Ileocecal intussusception
- 3- Volvulus neonatorum

I- Congenital esophageal atresia

CLINICAL PICTURE

☞ Symptoms:

- Newborn with cont. pouring of the saliva since birth, choking, cyanosis

☞ Signs:

- **General:** dehydration, pneumonia
- **Local:** Abdominal distention, associated with other cong. Anomalies (VACTEREL)

INVESTIGATIONS

- **For diagnosis:**
 - catheter test → arrest at 10 cm from the nostril
 - Gastrographin meal: shows fistula or atresia of the upper pouch
 - Plain X-ray → pulmonary complications, ↑ fundic air bubble

II- Ileocecal intussusception

CLINICAL PICTURE

→ Male 3-24 month old foll. recent gastroenteritis

☞ Symptoms:

- Colicky pain in attacks with crying & drawing legs up, in bet. attacks healthy child
- Projectile vomiting
- Absolute constipation which is confused by mother due to passage of blood & mucus per anus

☞ Signs:

- **General:** dehydration (sunken eyes, depressed fontanelles, inelastic skin)

SELF-ASSESSMENT- PART-II

- **Local :** - **Inspection :** visible peristalsis , distention of Abd.
- **Palpation :** sausage shaped mass , sign de Dance (empty Rt. iliac fossa)
- **Percussion :** tympanic Abd.
- **Auscultation :** mad abd.
- **DRE:** finger is stained with mucus & bl, apex of intussesption may be felt
- **C/P of complications:** 1- If peritonitis : R, G,T, RT
2- Shock & toxemia

INVESTIGATIONS

- **For diag.:** - X-ray: erect: multiple fluid levels
supine: detects the distended loops
- Ba meal: diagnostic & therapeutic claw sign
- **For complications:** CBC, S. electrolytes, KFTs

III- Volvulus neonatorum

→ infant 5-6 day

CLINICAL PICTURE

- Colicky Abd. pain in episodes .
- Bile stained vomiting , distension & constipation
- passage of bleeding per rectum

INVESTIGATIONS

- **X-ray**
- **Doppler US:** shows abnormal small bowel flow.

Vomiting

* Causes:

→ According to age

In the neonates:

- Pylorospasm
- Gastroenteritis
- Duodenal atresia: - True: failure of recanalization
- False → annular pancreas
- Wilkies ds.
- Band of ladd
- Intracranial hge.
- High int obstruction (duodenum, jejunum)
- Intussusception

In the adults:

I- GIT:

- a. Pyloric obstruction due to: • Chronic duodenal ulcer
• Chronic pyloric canal ulcer
• Malignant obstruction (CA stomach)
• Others: Chrons ds., TB., enlarged LNs (porta hepatis in CA head of pancreas)

- b. Acute abd.: • Appendicitis • Pancreatitis • Cholecystitis • Int. obstruction

II- CNS disorders: e.g. vestibular neuritis, migraine, inc. ICT)

III- metabolic: DKA, Addison disease

IV- infections: G.E, hepatitis

★ Discuss

1- CHPS

CLINICAL PICTURE

→ infant 2-6 Wks

☞ **Symptoms:** projectile vomiting (non-bile stained), constipation, failure to thrive

☞ **Signs:**

- **General:**
 - Wt loss
 - Dehydration(sunken eyes-depressed fontanel-dry tongue-inelastic skin-oliguria)
 - Bad chest
- **Local:** upper abdominal distention, visible peristalsis, olive like lump in the Rt. hypochondrium(tumor sign)

INVESTIGATIONS

- **For diagnosis:**
 - 1- US (most diagnostic) → thickening of the pyloric ms, dilated stomach
 - 2- Gastrographin study: dilated stomach, delayed emptying, persistent narrow pyloric canal(string sign)
- **For complications:**
 - CXR
 - CBC
 - KFT
 - Serum electrolytes (↓ Na, K, CL)

2- Pyloric obstruction

CLINICAL PICTURE

☞ **symptoms:** .projectile vomiting(non bile stained), constipation

☞ **signs:**

- **General:** dehydration, chest infection, Wt loss
- **Local:** upper abd. distention, visible peristalsis

☞ **C/P of the cause:**

1. Healed duodenal ulcer: history of periodic pain of DU, now lost & become cont. suction splash

2. CA pylorus: (falls in one of 5 groups) male >40 Yrs presented with

- Dyspepsia
- Cachexia
- Epigastric mass
- Obstruction: vomiting
- Metastasis

☞ **C/P of complication:**

1- Dehydration

2- Metabolic alkalosis: (hypochlorohyda) due to loss of HCL.

C/P: • ↓ respiratory rate • Parathesia, convulsion, tetany (↓ ionized Ca)

INV: ABG → ↑ PH, ↑ Hco₃

3- Hypochalmia:

C/P: • Paralytic ileus • Hypotonia, hyporeflxia • Arrythmeia, cardiac arrest

- Apathy
- Renal tubular damage

INV: • serum K is reduced

- ECG → inverted T-wave

INVESTIGATIONS

- **Lab.:**
 - CBC
 - Serum electrolytes (↓ Na, K, CL)
 - KFT
 - Tumor markers

- **Radiology:**
 - Ba meal → benign obst.: dilated stomach, soup dish delayed gastric emptying
 - CA stomach: irregular filling defect, ulcer niche, Carman meniscus, linitis plastica
 - CX ray: chest infection
 - Abd.US: liver metastasis,
 - Upper GI endoscopy: to exclude malignancy & take biopsy, endoluminal US

Abdominal distention

ETIOLOGY

- 1- Fetus (pregnancy is the commonest cause)
- 2- Flatus
- 3- Feces
- 4- Fat
- 5- Fluid (free/encysted ascitis)
- 6- Large solid tumor such as:
 - Fibroid
 - Causes of hepatomegaly
 - Causes of splenomegaly
 - Renal mass e.g. polycystic kidney
 - Retroperitoneal sarcoma

I- Fetus

- Pregnancy is the commonest cause
- C/P: female in the child bearing period with features of pregnant uterus:
 - Smooth, firm, dull swelling arising out of the pelvis esp. after the 1st 12 weeks
 - Bimanual examination reveals that it moves with the movement of the cervix & cervix is soft & patulous

2- Flatus

- Gas in the intestine can cause considerable abdominal distention
- **Etiology:**
 - Mechanical intestinal obstruction, paralytic ileus, acute dilatation of the stomach

CLINICAL PICTURE

- **Symptoms:**
 - Of intestinal obstruction
- **Signs:-**
 - Inspection: may be visible peristalsis
 - Palpation: suction splash esp. with pyloric obstruction
 - Percussion: hyperresonance

3- Feces

- It's fecal impaction

ETIOLOGY

Hirschsprung's, chronic int. obstruction (CA. colon)

CLINICAL PICTURE

- **Symptoms:**
 - History of change in the bowel habits, or chronic constipation, or spurious diarrhea
- **Signs:**
 - Inspection: fullness in the flanks
 - Palpation: hard firm indentable masses mainly in the flanks or in the lower epigastrium
 - P/R: rectum full of feces, but in case of obstruction → empty rectum

SELF-ASSESSMENT- PART-II

INVESTIGATIONS

- Plain X-ray: abdominal erect → air fluid level
supine → distended gas bowel
- Abdominal US.
- Barium enema

4- Fat

- Rarely causes abdominal distention (distention due to heavy thick omentum)

5- Fluid: ascitis

A- FREE FLUID IN THE PERITONEAL CAVITY

▪ Etiology:

- 1- Increase in the portal venous pr.:
 - Prehepatic
 - Hepatic
 - Posthepatic
- 2- Causes of hypoproteinemia
- 3- Causes of chronic peritonitis
- 4- Chylous ascitis

- C/P: Signs: - Fluid thrill - Shifting dullness

B- FLUID ENCYSTED IN A CYST

▪ Etiology:

- Mesentric cyst
- Ovarian cyst
- Hydatid cyst
- Full urinary bladder
- Pancreatic pseudo cyst

C/P: signs: - fluid thrill -dull to percussion -no shifting

6- Other swellings:

★ Discuss:

- 1- CA colon (see before)
- 2- Splenomegaly(see before)

DD of pyloric obstruction

→ It's a serious condition which has many causes acc. to the patient age

ETIOLOGY

- A- Infants & children:**
- CHPS
 - Corrosives
 - FB

- B- In adults:**
- Chronic healed DU
 - Pyloric canal ulcer
 - Malignant obstruction i.e. CA stomach
 - pressure from outside i.e. CA head of pancreas, or metastasis in the porta hepatis
 - Others: as chrons disease, TB.

CLINICAL PICTURE

▪ Symptoms:

- Of intestinal obstruction:
 - Abdominal pain & distention,
 - Projectile vomiting non-bile stained
 - Absolute constipation

Signs:

- General: dehydration, under Wt, chest infection
- Local: upper abdominal distention, visible peristalsis

▪ C/P of the cause:

- 1- CHPS: infant 2-6 wks presented as above+ olive like lump in the Rt. hypochondrium
- 2- Healed DU: history of periodic pain that's now lost & become cont. O/E: suction splash
- 3- CA pylorus: fall in one of the following group:
 - Dyspepsia resistant for treatment for > 2 wks
 - Cachexia
 - Obstructive group: vomiting
 - Epigastric mass
 - Metastatic: jaundice, malignant ascitis

▪ C/P of the complication:

1. Dehydration: sunken eyes, dry tongue, inelastic skin
2. Metabolic alkalosis : decrease resp. rate, parathesia
3. Hypokalemia: hypotonia, arrythemia

INVESTIGATIONS

i- Laboratory:

- CBC: anemia
- KFTs: prerenal failure
- Serum electrolytes: dec. Na, K, & Cl.
- Tumor markers if suspecting carcinoma

ii- Radiological:

- Ba meal:
 - Benign obstruction → dilated stomach & delayed emptying
 - Gastric cancer → irregular filling defect
- Abdominal US:
 - CHPS → thickening of the pyloric ms + dilated stomach
 - Gastric cancer → liver secondaries
- CXR: chest infection

iii- Instrumental:

- Endoscopy: stenosed pyloric ring or take biopsy if suspecting malignancy

TREATMENT

A. Pre-operative preparation:

- 1- NG suction & wash
- 2- IV alimentation
- 3- Correction of fluid & electrolytes (Na., K, & Cl) & acid base balance (alkalosis)
- 4- Chest physiotherapy & antibiotics

B. Specific treatment: acc. to the case

- 1- CHPS: Ramsted's pyloromyotomy
- 2- healed DU: truncal vagotomy + gastrojejunostomy
- 3- gastric cancer:
 - Operable → total radical gastrectomy
 - Inoperable : if resectable → palliative gastrectomy
 - if irresectable → metal stenting

Post operative fever

★ Causes

- According to the post operative day
- 1st day → tissue reaction
 - Day 1-2 → pneumonia, aspiration, pul. embolism, atelectasis
 - Day 3-5 → UTI (related to the indwelling catheter)
 - Day 4-6 → DVT- pul. embolism
 - Day 5-7 →
 - Wound infection
 - Sinusitis, tonsillitis
 - Intraabdominal abscess(subphrenic abscess)
 - Postoperative/hemolytic crises

★ Discuss

I- Chest complications: lobar/ bronchopneumonia

CLINICAL PICTURE

☞ Symptoms:

- General: FAHM
- Local : cough, expectoration of mucopurulent sputum, dyspnea, pleuritic chest pain

☞ Signs:

- Inspection: diminished chest movement.
- Palpation : inc. TVF
- Percussion: dullness
- Auscultation: bronchial breathing, coarse crepitation, bronchography d.t. consolidation in the lobar pneumonia signs are limited to one lobe, while in bronchopneumonia it is bilateral & patchy

INVESTIGATIONS

- CXR: homogenous opacity of lobe → lobar pneumonia
- bilateral patchy consolidation → bronchopneumonia
- C & S for sputum
- Bl. gases → hypoxia, hypocapnia

II- DVT & PE:

CLINICAL PICTURE

- history of pelvic surgery, prolonged recumbency

☞ Symptoms:

- Commonly asymptomatic & PE may be the 1st presentation
- Pain: aching aggravated by exercise
- Swelling → the most reliable physical sign
- Tenderness → on grasping the calf Ms

☞ Signs:

- General: mild unexplained fever, tachycardia out of proportion to fever

SELF-ASSESSMENT- PART -II

C/P: of complications:

- **Local:**
 - Phlegmasia alba dolens → swollen pale white limb with absent pulsations
 - Phlegmasia cerula dolens → massive swollen blue limb
 - Post phlebitis limb with 2ry varicose veins
 - Venous gangrene
- **General: PE**
 - C/P : differ acc. to the size of the embolus:
 - If small → usu. silent, if recurrent causing obstruction > 50% of peripheral Arteries causes pul. HTN
 - If moderate → pul. infarction: dyspnea, severe pleuritic chest pain, hemoptysis
 - If large
 - Obst. one of branch of pulmonary A.: → severe pericardial pain.
 - marked hypotension, tachycardia, dyspnea
 - Rt. sided failure
 - Obst. pul. trunk: sudden death

INVESTIGATIONS

- **For DVT:**
 - Doppler, Duplex → - Complete obst.: dead silence
 - Partial obst. : loss of augmentation
 - Recently spiral CT
- **For PE:** starts with D-dimer if +ve proceed:
 - Spiral CT (most accurate): if clot → filling defect
 - Ventilation perfusion scan: shows filling defect with the perfusion & normal ventilation
 - ABG: hypoxia, hypocapnia, acidosis
 - ECG, CXR, pulmonary angiography

III- Subphrenic abscess

CLINICAL PICTURE

Symptoms:

- **General:** hectic fever (develops or persists after ttt of any inflammatory lesion within the abdomen), AHM
- **Local:** hiccough, slight pain in epigastrium or Rt. hypochondrium

Signs:

- **General:** hectic fever, tachycardia, pleural effusion
- **Local:**
 - **Inspection:** edema of overlying skin, rigidity
 - **Palpation:** G, R, T, RT. over lower ribs swelling in the Rt. Hypochondrium
 - **Percussion:** 4 percussion zones resonance of lung
 - Dullness of pl. effusion
 - Resonance of gas in abscess
 - Dullness of liver or pus in the abscess
 - **Auscultation:** decrease air entry.

INVESTIGATIONS

- **Lab:** CBC: ↑TLC, ESR
- **Radiology:**
 - abd. US & CT: aspiration foll. by C&S
 - CXR: pleural effusion, elevated cupola of the diaphragm, air under diaphragm (if perforation)

Pre-operative preparation & Risk assessment

► VALUE OF PRE-OPERATIVE ASSESSMENT:

2. Anticipated difficulties
3. Enhance patient safety & minimize the chance of error.
4. Relieve any reluctant fear & anxiety expressed by the patient

→ Preoperative assessment includes three steps :

Step I: Outpatient clinic, first thing to confirm diagnosis & decision of operation.

- a. History
- b. Examination
- c. Investigation

a. History:

- **Personal history:** age : old → risk of anesthesia
Sex: female in the child bearing period to exclude pregnancy
Special habits: should be quitted several days before the operation.
- **Past history:**
 - Medical diseases: as DM, HTN (inc.risk of anesthesia)
 - Previous surgical operations
 - Drugs: steroids, anticoagulants, β B, antibiotic , diuretic, COC
 - Allergy or hyper sensitivity : to drugs e.g. penicillins , iodine containing substances alcohol, drug abuse.
 - Family history: DM, HTN
- **Physical examination:**
 - A- **General metabolic status:**
Wt: obese patient have many problems as inc.risk of DVT, post operative chest complication.
Exclude thyroid ds.
 - B- **Respiratory system :**
 - Exclude abnormal findings by inspection, palpation, percussion , auscultation → exclude risk factors for postoperative complications.
 - History of COPD, or respiratory ds.
 - C- **CVS diseases:**
 - By auscultation for any murmur, exclude risk factors as, unstable angina ,IHDs, MI, Ht. failure, HTN
 - D- **Urinary :**
 - By abdominal examination e.g. swelling in the loin
 - Rectal palpation for checking BPH → postoperative urinary retention.
 - E- **Hepatic system :**
 - Exclude risk factors as all jaundiced patient or history of liver ds., hepatomegaly , splenomegaly , alcoholic hepatitis
 - F- **Neurological system:**
 - By neurological examination: especially in patient with ↑ risk as carotid bruit, CVS ds.
 - G- **Hemolytic disease:**
 - Should be excluded

INVESTIGATIONS

- Respiratory: CXR arterial PO₂ , pulmonary function tests in high risk patient.
- CVS : ECG echo coronary angiography.
- Urinary system : urine analysis for sugar , ketone bodies , bile, KFT.
- Hepatic dysfunction: liver function test , screening for hepatitis
- Neurological system: US for carotid artery

SELF-ASSESSMENT- PART -II

Step II: Admission to hospital:

- 1- Check patient examination (pulse , bl. pr., temp.) & investigations
- 2- Inform about nature of the operation , risks & take consent
- 3- Special preparation: in large bowel surgery → bowel must be emptying by gastric lavage ,
anorectal operation → 2 glycerine suppository

Step III: Preoperative round

☛ Done on the day before surgery

- 1- Final examination of the patient & all essential investigations should be completed & prepare blood ready for transfusion
- 2- Instructions to medical staff : eg. immediate pathological report by pathologist
- 3- Discussion of the procedure plan with the surgeon team & assurance of the patient
- 4- Instruction to the nursing staff :
 - No food fluid after 23:00 hour on day before operation
 - Area shaved immediately before surgery or after induction of anesthesia.
 - High caloric diet on day before operation
 - On the morning day , patient should be showered with 10% Bovine Iodine
 - Ensure fluid balance
 - Prophylactic antibiotic in some operations appendectomy

☛ Pre-anesthetic assessment

- Full history: DM, HTN, avoid anti HTN , anticoagulant
- Examination: pulse , Bl.Pr. , teeth, Ht chest
- Revision & request for investigations.

☛ Pre-anesthetic medication

- Aim:

- 1- Sedation eg. benzodiazepine, opioids
- 2- analgesia eg. morphine , pethidine, fentanyl
- 3- Reduce airway secretions
- 4- Prevention of broncho spasm ,eg. anticholinergic
- 5- Hemodynamic stability
- 6- Prevent / minimize impact of aspiration
- 7- Decrease postoperative nausea & vomiting , gastric acidity e.g. omeprazole

- Time: gives 0.5 – 2hr before induction of anesthesia

DD of breast cyst

A. Acinar: (arises from duct system):

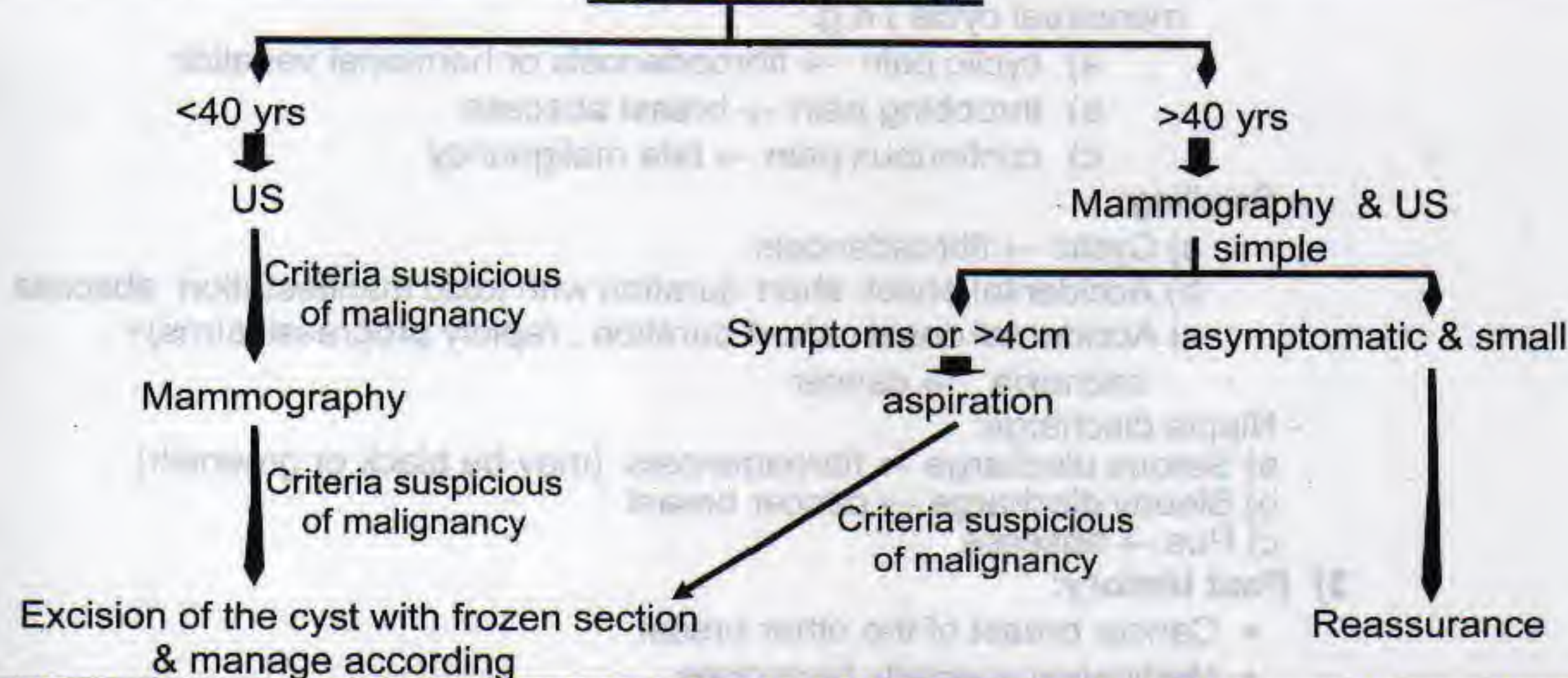
- 1- Fibroadenosis (commonest cause)
- 2- Duct papilloma (blood cyst)
- 3- Galactocele (obstruction of milk duct)

B. Intra Acinar: occurs in the stroma

1. Sebaceous cyst
2. Traumatic cyst
3. Inflammatory (TB, Abscess)
4. Neoplastic (degenerating carcinoma)
5. Dermoid cyst
6. Hydatid cyst

Management of any breast cyst

According to age



Breast Pain (Mastalgia)

→ It is one of the commonest complaints

★ Causes

I. MAMMARY (CYCLIC / NON CYCLIC)

- physiological
- pathological :
 - Fibroadenosis (commonest)
 - Breast abscess
 - Mondor's diseases (superficial thrombophlebitis)
 - Trauma
 - Duct ectasia
 - Sarcoma
 - Advanced carcinoma

II. EXTRAMAMMARY :

- Premammary (infection of montgomery glands)
- Retromammary e.g. Tietz's syndrome (inflammation of costochondral junction)

★ Diagnosis

i. Clinical assessment:

A- History:

1) Personal history:

- Age:
 - Fibroadenoma → extremes of reproductive age
 - Most of breast cancer → after the age of 50 yrs
- Other risk factors for cancer breast:
 - Menstrual history, marital status
 - Menstrual irregularity
 - Early menarche & late menopause
 - Nullipara
 - Non lactating lady (if < 18 y).
 - Contraceptive pills.

SELF-ASSESSMENT- PART-II

2) HPI:

- Pain with its nature:

(onset, course, duration, site, character, radiation, & relation to menstrual cycle) e.g.

- a) cyclic pain → fibroadenosis or hormonal variation
- b) throbbing pain → breast abscess
- c) continuous pain → late malignancy

- Swelling:

- a) Cyclic → fibroadenosis
- b) Accidental onset, short duration with toxic manifestation abscess
- c) Accidental onset, short duration, rapidly progressive (ms) + cachexia → cancer

- Nipple discharge:

- a) Serous discharge → fibroadenosis (may be black or greenish)
- b) Bloody discharge → cancer breast
- c) Pus → abscess

3) Past history:

- Cancer breast of the other breast
- Medication specially hormones
- Stress

4) Family history of cancer breast

B- Examination:

- 1) Underlying breast lump.
- 2) Breast discharge.
- 3) Examination of axillary LN (see breast lump)

ii. Investigations :

1. Mammography:

- a) Detect non palpable breast lesions
- b) Exclude occult in both breasts.

2. US: diagnosis of nature of breast lump if present

- a) Cystic : it could be benign or malignant (helped by aspiration cytology).
- b) Solid: it could be benign or malignant

3. Biopsy:

- a) FNABC
- b) Core-cut needle
- c) Open history

iii. Treatment:

1- If breast mass is present :

- ▶ TTT according to cause e.g.
- Drainage of breast abscess
- Treatment of cancer breast according to the stage:
Surgical excision, radio, chemo, and / or hormonal therapy

2- If there is no mass → treated as fibroadenosis:

a. Minor Pain:

- Analgesics → NSAID
- Breast support → Firm bra
- Psychological support → reassurance
 - Tell the patient that the pain is not secondary to cancer (but do not tell that patient that nothing is wrong)
 - Inform the patient that her pain will not ↑ the risk of developing cancer

SELF-ASSESSMENT- PART -II

- Diet:

- Avoid caffeine & nicotine
- Reduce fat.

b. Moderate to severe pain:

- Primrose oil (single morning dose)
- Regulation of the cycles by OCP

DD Nipple Discharge

★ Causes

- 1- **Physiological** : serous discharge during pregnancy
- 2- **Pathological** : commonest cause is duct ectasia

Causes	Nature	Origin
1. Duct ectasia	Creamy/bloody	One or more duct
2. Fibroadenosis	Brownish/greenish	One or more duct
3. Duct papilloma (commonest cause of bloody discharge)	Bloody	One duct
4. Duct carcinoma	Bloody	One duct
5. Contraceptive pills	Milky/serous	Multiple ducts
6. Hyperprolactinemia	Milky	Multiple ducts
7. Infection	Purulent	More than one duct
8. Trauma	Bloody	

★ Diagnosis

i. Clinical assessment:

A- History:

a. Personal history:

- Age:

- a) Fibroadenosis → extremes of reproductive age
- b) Most of breast cancer → after the age of 50 yrs
- c) 2% of breast cancer → before the age of 30yrs

- Other risk factors for cancer breast:

- Menstrual history, marital status
- Early menarche & late menopause
- Nullipara
- Non lactating lady (if < 18 y).
- Contraceptive pills.

b. HPI:

- Nipple discharge:

(color, amount, odor, unilateral or bilateral)

a) Character serous, bloody, etc...

1. Clear serous fluid → fibroadenosis
2. Black or greenish (altered blood) → fibroadenosis pr duct ectasia
3. Bloody discharge → duct papilloma, papillary cyst-adenoma or carcinoma of the breast
4. Pasty material → comedo carcinoma
5. Pus → breast abscess
6. Milk → galactorrhea (e.g. hyper-prolactinemia)

b) Location (bilateral or bilateral)

SELF-ASSESSMENT- PART -II

-**Pain** with its nature (onset, course, duration, site, radiation & relation to menstruation)

- Cyclic (premenstrual) e.g. Fibroadenosis
- Dull aching e.g. duct ectasia
- Throbbing pain e.g. breast abscess
- continuous pain e.g. late malignancy

- **Lump:**

- Cyclic → fibroadenosis
- Accidental onset, short duration with toxic manifestation → abscess
- Accidental onset, short duration, rapidly progressive course (ms) cachexia → cancer

c. Past history cancer breast of the other breast

d. Family history of cancer breast

B- Examination:

General:

- Toxemia
- Metastasis (liver, spine, PR)

Local:

- Discharge: differential squeeze by zonal pressure to identify the site the discharge is coming from (& if it's from one or multiple duct)
- Lump & its relations to surroundings
- LN examination (axillary & supra -calavicular LNs bilaterally)

ii. Investigations : (as breast pain +)

- Benzidine test → for occult blood
- Cytology → for exfoliated cells
- Mammography & sonography
- Galactography may be needed
- Investigations for hyper-prolactinaemia
 - Serum Prolactin, if elevated
 - CT scan for sella tursica to exclude pituitary adenoma
- Purulent discharge → Gram stain, C/S

o in cases proved to be malignant:-

- Mirror image biopsy (in lobular carcinoma)
- Sentinel LN biopsy

o Other investigations:

- Hormonal replacement assay
- Survey for metastasis (bone scan, lung CT, Liver U/S)
- Follow up by tumor marker (CA 15.3)

iii. Treatment:

► **Bloody nipple discharge (Benzidine test +ve)**

- If associated with lump:
 - Remove the lump + histopathology
- If not associated with lump → Zonal Pressure:
 - From One duct (duct papilloma) → micro-docheotomy & histopathology
 - From many ducts → according to age
 - if the patient > 40 yrs (duct ectasia or multiple duct papilloma) major duct excision is done.
 - if the patient < 40 yr → observe until:
 - Disappearance of the discharge
 - Apperance of lump → removal of lump + histopathology
 - localization to one duct → micro-docheotomy + histopathology
 - Patient reach 40 yrs → major duct excision

Urinary diversion

A- **TEMPORARY** (to relieve distal obstruction)

1- **Urethral obstruction** (as in elderly patients unfit for prostatectomy):

- a- Indwelling silicone urethral foley's catheter changed every 3 months (the drawback is infection with long term catheterization)
- a- Suprapubic cystostomy

2- **Ureteric obstruction:**

- a- Double J ureteric pig tail stents changed every 4-5 months
- b- Nephrostomy tube (percutaneous under U/S guidance).

B- **PERMANENT:**

➤ **Indications:**

1. Removed Urinary bladder
2. Lost normal urological control of urinary bladder
3. Incurable fistula
4. Irremovable obstruction

➤ **Types:**

1. External diversion:
 - a- Ileal conduit:
 - b- ureterocutaneous implantation
2. Internal diversion
 - a- Ureterocolic Implantation
 - b- Rectal bladder.
 - c- Bladder reconstruction (neobladder)

➤ **Complications of internal diversion:**

- 1- Stricture
- 2- Resorption of solutes:
 - Effects:
 - A-** Reabsorption of chloride and Urea → hyperchloromic acidosis.
 - B-** Diarrhea → K⁺ loss
- 2- Other complications according to the type of diversion (see below)

More details about some types

A- **ILEAL CONDUIT (THE BEST):**

- A Segment of the terminal ileum is isolated with intact blood supply.
- The 2 ureters are implanted into it. one end is closed and the other end is fixed to the skin as an ileostomy.

★ **Advantages:**

- no urine leak , no infection & urine reservoir

★ **Disadvantages:**

- Hyperchloremic acidosis may occur but less severe than colonic diversion (absorption of chlorides by heal mucosa)
- Malabsorption of vitamin B12 → so, monitoring of its level after 1 year is important.

SELF-ASSESSMENT- PART -II

→ Special surgery

	B- URETEROCUTANEOUS IMPLANTATION	C- URETEROCOLIC IMPLANTATION
Procedure	The ureters are brought out on the skin surface through 2 small incisions	The ureters are implanted into sigmoid colon
Indications	1- Bad kidney function 2- Contraindicated ureterocolic implantation.	Cases with good kidney function
Advantages	Easy & best renal drainage	The patient is continent
Disadvantages	1- Continuous soil in with skin excoriation 2- Ammonical odor 3- Ascending infection	1- Ascending infection 2- Hyperchloremic acidosis 3- Cancer colon

D- RECTAL BLADDER:

- The sigmoid colon is divided above the recto-sigmoid junction.
- The proximal end is brought out as colostomy
- The distal end is closed and the 2 ureters are implanted into the rectum , which will work as urinary bladder.
- **Advantages:**
 - Easy and safe operation
 - The patient will be continent to urine.
 - No infection or hyperchloremic acidosis.
- **Disadvantages:**
 - Presence of colostomy

Hematuria

DEFINITION:

- Presence of blood in urine (always abnormal whatever its type)

CAUSES:

a- General causes:

1. Bleeding tendency: e.g. Pupura & hemophilia.
2. Hypertension.
3. Drugs: anticoagulants.

b- Local causes

	Vascular	Infection	Trauma	Neoplasms	Others
Kidney	Renal infraction	- Pyelonephritis - TB	- Stone - Rupture kidney	- Wilm's - RCC - TCC & SCC of the renal pelvis	Polycystic kidney
Ureter		TB	Stone	TCC of ureter	
UB		- Bilharziasis - TB - Non specific cystitis	- Stone - Rupture bladder	- TCC - SCC - Adenocarcinoma	
Urethra		Urethritis	- Stone - Rupture urethra	Urethral carcinoma	
Prostate		Prostatitis		Cancer prostate	BPH

→ **THE COMMONEST CAUSES ARE:** stones, bilharziasis, BPH, hypernephroma & trauma.

SELF-ASSESSMENT- PART -II

CLINICAL PRESENTATION OF IMPORTANT CAUSES:

1. Stones

- **Type of patient :** middle aged male
- **Symptoms:**
 1. Painful hematuria (terminal, initial or total according to the site)
 2. Pain:
 - Dull aching pain in the flanks if renal stone
 - Ureteric colic if ureteric stone (agonizing loin to groin pain usually with nausea & vomiting)
 - Suprapubic pain with dysuria, strangury & frequency if bladder stone.
 - Urethral pain referred to the tip of penis if urethral stone.
- **SIGNS:**
 1. **General:**
 - Fever if infection occurred
 - Uremia
 2. **Local:** hydronephrosis - tender loin mass
- **Complications:**
 1. **Acute retention** (in bladder or urethral stone) → painful desire to micturate & tender enlargement of the bladder
 2. **calculus anuria** (in complete ureteric obstruction if bilateral or unilateral in the only functioning kidney) → no urine, no desire & empty bladder.

2. RCC

- **Type Of Patient:** Male, 40 yrs
- **Typical presentation :**
 1. Hematuria: painless, periodic, persistent, total.
 2. Late: loin pain or clot colic, mass in the flank
- **Atypical presentation:**
 1. Cachexia, metastasis (cough, hemoptysis)
 2. Secondary varicocele
 3. Paraneoplastic \$ as: polycythemia, hypercalcemia, cushing dis.

3. Bilharzil cystitis:

1. History of bilharziasis (endemic area)
 2. Painless terminal hematuria with anemic manifestations as: pallor & easy fatigability
 3. Pyuria & dysuria due to repeated infections
- **Complications:** as stones, hydronephrosis, bladder SCC & late → uremia

4. BPH

- **Type of patient :** male > 60 yrs
- **Symptoms:**
 1. **Prostatism (LUTs):**
 - Frequency , 1st nocturnal then day & night .
 - Hesitancy, intermittent flow, post-micturition dribbling.
 - Sexual : inc. libido then impotence
 2. **Complications:** as acute retention with alcohol or withholding urine.
- **Signs:**
 1. Non-tender bladder enlargement ± tender lion mass.
 2. DRE → smooth, soft, symmetrical, preserved sulci & mobile rectal mucosa

SELF-ASSESSMENT- PART-II

INVESTIGATIONS:

(cystoscopy is the most important one, better during the attack)

1- Laboratory:

1. Urine analysis
2. KFTs:
3. Tumor markers:

2- Radiological:

1. Plain X-ray: stone, TB, Bilharziasis
2. U/S: stones, tumor, congenital polycystic kidney
3. IVU: stones, tumors (filling defect)
SEP (smooth elevation of bladder neck)
Hypernephroma (DEAD of pelvicalyceal system)
4. Ascending cystography : carcinoma of UB, diverticulum.

3- Instrumental:

- Cystoscopy:
 - With biopsy from any lesion
 - If bleeding is unilateral → ureteric catheterization & do ascending pyleography.

TREATMENT:

(Not mentioned if the question is DD of hematuria)

1. Anti-shock measures (IV fluids, blood transfusion.....)
2. Stop bleeding by: Vitamin K injection, dicinone & cyclokapron IM
3. Treatment of the cause e.g.

→ Stone:

- < 1 cm → conservative
- 1-2 cm. & not impacted.
 - Pelvis & upper ureter → ESWL
 - Lower ureter & bladder → endoscopic extraction
- > 2cm or impacted → endoscopic extraction
- If failed above measures → open surgery according to the site

→ SEP:

- TURP (if small)
- Open prostatectomy (if large)

→ Hypernephroma → radical nephrectomy

➤ Other causes of red urine

1. Certain food (beet root)
2. Certain drugs: carmurit, rifampicin.
3. Hemoglobinuria (hemolytic anemia), myoglobinuria.
4. Bilirubinuria (OJ).
5. During menstruation

➤ How to perform 3 glass test

- Ask the patient to pass urine:
 - The first part of urine in a glass
 - The midpart in another glass.
 - The last part in a 3rd glass
- a) Initial hematuria is urethral in origin
- b) Terminal hematuria is UB or prostate in origin
- c) Total hematuria is renal in origin.

Polytraumatized Patients

INCIDENCE

- Represent the commonest cause of death among people aged 1-34Yr

ETIOLOGY

I. Closed trauma:

- Direct → blunt e.g. motor car accident fall from height.
- Indirect → fracture ribs
- Spontaneous rupture

II. Open trauma: gunshot wounds, stabbing, iatrogenic

PATHOLOGY

1- Parenchymatous organs:

- Subcapsular hematoma
- Superficial or deep tears
- Avulsion of a pole
- Complete debulbing
- Injury of a vascular pedicle

2- Orthopedics: displacement

3- Vascular:

- With tear: A-V fistula, false aneurysm
 - Tear: complete → ↓ bleeding • Incomplete → ↑ bleeding
- Without tear: spasm, contusion

4- Head injury: e.g. IC hge, skull fracture, scalp hematoma

CLASSIFICATION OF POLYTRAUMATIZED PATIENT

- The classification is done by triage system.
- Triage is used in hospital emergency rooms, on battle fields & disasters when limited medical resources must be allocated.
- Triage involves dividing patient into 3 groups by colored labels as follows:
 - 1- **Red:** those who will die anyway whether they receive medical attention or not.
 - 2- **Yellow:** those who will survive only if they received timely medical attention.
 - 3- **Green:** those who will survive anyway whether they receive medical attention or not.

CLINICAL PICTURE

A. Of head injuries:

1. **Stage of concussion:** immediately after trauma patient falls flaccid & loses his consciousness
2. **Stage of lucid interval:** period of recovery from coma of concussion foll. By coma of compression
3. **Stage of compression:** s/s of ↑ ICT, localizing symptoms e.g. contralateral hemiplegia & ipsilateral constriction of the pupil.
4. **Terminal stage:** decerbrate rigidity

B. Of chest injuries: (e.g pneumothorax, hemothorax, flail chest)

- **Symptoms:** history of trauma, acute chest pain, dyspnea, cough, cyanosis.
- **Signs:**
 - **General:** signs of shock, engorged neck veins, cyanosis, respiratory distress
 - **Local:**
 - Inspection:** ecchymosis & bruising, ↓ chest movement on the affected side or flail segment moves paradoxically with respiration (in flail chest)

SELF-ASSESSMENT- PART -II

Palpation: shift of the trachea to the opposite site, ↓ TVF

Percussion: tympanic resonance on the affected side (or dullness in hemothorax)

Auscultation: ↓ air entry

C. Of abdominal injuries: (e.g. liver-spleen-renal)

→ History of trauma to the abdomen followed by abdominal pain.

→ General: shock → rapid weak pulse, hypotension, subnormal temp., cold extremities, palor, oliguria.

→ Local:

- Inspection: ecchymosis & bruises in the injured area, rigidity
- Palpation: G, T, RT in the injured area
- Percussion: shifting dullness
- Auscultation: dec. intestinal sounds
- DRE: fullness in the rectovesical pouch in males, or in the Douglas pouch in females

→ Special signs:

- Kehrr's sign: referred pain to the Lt. shoulder due to diaphragmatic Irritation
- Cullen sign: bluish discoloration around the umbilicus.

MANAGEMENT OF POLYTRAUMATIZED PATIENT

→ Successful management polytraumatized patients require the integration of pre-hospital, in-hospitals & rehabilitation which are included in advanced trauma life support system (ALTS) which is safe & reliable approach for initial assessment & treatment of trauma as follow:

❖ Pre-hospital management

1. Ensure Patient Airway + Support Of Mandible Forwards.
2. Ensure adequate ventilation
3. Control any apparent bleeding by tourniquet or compression.
4. Cover any wound with sterile dressing
5. Avoid flexion of the spine to avoid dislocation in unstable spine injuries.
6. Inform the hospital to activate the trauma team prior to arrival of the accident

❖ At hospital

I. Primary survey ABCDE

A. Airway:

- Place the patient on his side and lower the head slightly.
- Prevent backwards falling of the tongue by oropharyngeal airway.
- Suck any secretion or blood in the mouth with oxygenation.
- In comatosed patient → endo-tracheal tube and mechanical ventilation.

B. Breathing:

- Take care from hypoventilation or hypoxia evidenced by agitation or level of consciousness.
- Easily detection and correction of pneumothorax, cardiac tamponade, hemothorax, bronco-pleural fistula or lung laceration or surgical emphysema.

C. Circulation:

- Control bleeding by local compression or tourniquet.
- Treatment of shock either hypovolemic, cardiac or neurogenic.

D. Disability:

- Any fracture should be splinted to relive pain and avoid soft tissue injury until fixation is done

SELF-ASSESSMENT- PART -II

E. Exposure:

- Of the patient to detect any soft issue, vascular orthopedic injury.
- This phase aims at resuscitation & monitoring of poly-traumatized patient.

II. Secondary Survey

This phase includes:

1. Head to toe examination of undressed & stable patient

▪ Head examination:

- Injuries
- Mouth
- Eye (pupil → size and reaction).
- Ear and nose

▪ Neck: neck collar for fixation:

- Absent pain or neurological signs does not exclude injury.

▪ Chest: Penumothorax, hemothorax, cardiac tamponade.

▪ Abdomen:

- Indication of peritoneal lavage:
 - o Unconscious patient and hypotension of unknown etiology.
 - o Injury below and above diaphragm and evidence of abdominal injury.

▪ P/R:

- Blood in lumen
- Pelvic floor
- Prostate
- Sphincter tone

▪ Neurological: Glasgow coma scale

▪ Limbs: for fracture and neurovascular bundle.

2. History of any (AMPLE H/O):

- Allergies
- Past medical history
- Event of injury
- Medications
- Last meal

3. Urgent investigations after basic life support:

▪ Laboratory:

- HB%, glucose level, Kidney functions, PO_2 , PCO_2 , NA^+ , K^+ .

▪ Radiological:

- Plain X-ray: chest and skeletal or visceral injuries.
- CT and MRI: chest, abdominal or head traumas.
- U/S: for abdominal injuries.

▪ Instrumental:

- Abdominocentesis or thoracocentesis
- GIT or urinary endoscopies

III. Definitive treatment

→ During 2ry survey after stabilization of the patient, we can detect definitive injury by its specific clinical picture & specific investigations & deal with the patient according to the type of injury & priorities.

1. Head injury:

- IC hge → control bleeding by underrunning suture, cauterization, ligature or facial graft
- Scalp hematomas → apply cold followed by hot fomentation + prophylactic Abs
 - o If large → evacuation.
- Skull fracture → conservative treatment after exclusion of IChgh, unless there is indication for surgery.

2. Chest injury:

- In pneumothorax & hemothorax: insertion of I.C tube under water seal in the 5th space midaxillary line
- If flail chest: 1st emergency strapping & emergency tracheostomy, then skeletal traction, or open reduction & internal fixation, or PEEP

3. Abdominal injury:

- Immediate laparotomy then control bleeding.
- If liver injury → by pringle's maneuver
- If splenic injury → splenectomy
- If renal injury → suturing if small tear, partial or total nephrectomy if debulging injury

IV. Rehabilitation

- Requires coordination of the patient, medical staff & social services.

Neck injuries

INTRODUCTION

- Neck injuries represent great challenge, because neck is a compact structure formed of a compressed multiorgan systems (airway, vascular, neurological, GIT)

INCIDENCE

- Neck trauma accounts for 5-10% of the serious traumatic injuries
- More common in males esp. young adults & adolescents.

ETIOLOGY

1. **Open trauma (penetrating): the commonest**
 - Gunshot, stab wound, iatrogenic (e.g. during esophagoscopy)
2. **Closed trauma (blunt)**
 - e.g. car accident, strangulation or cervical spine disruption

PATHOPHYSIOLOGY

- Musculoskeletal injuries: vertebral bodies, cervical Ms, tendons ligaments, clavicle, 1st & 2nd ribs & hyoid bone
- Neurological injuries: spinal cord, phrenic N., Brachial plexus, RLN., cranial Ns (XI, X, XI, XII)
- Vascular injuries: carotid (common, ext., int.), innominate & jugular veins
- Visceral structures: thoracic duct, esophagus, pharynx, larynx, trachea, thyroid
- Ass. Structures: lung, Ht & great Vs

CLASSIFICATION

- The ant. Neck is divided into 3 zones:

**→ Zone I:**

- Extends from the sterna notch to the cricoids cartilage. Injuries here carry the highest mortality because of the risk of great Vs (e.g subclavian & common carotid) & intrathoracic injury.

→ Zone II:

- Extends from the cricoid cartilage to the angle of the mandible.

→ Zone III:

- Is that part of the neck above the angle of the mandible.

CLINICAL PICTURE

- **History** of trauma (ask about mechanism of injury), pain at the site of trauma

→ Symptoms:

- **General:** - Shock :

- 1- Hypovolemic shock: rapid weak pulse, hypotension, subnormal temp., cold extremities, Palor, oliguria.

- 2- Neurogenic shock

- Associated Injuries e.g. chest & Heart injuries, or associated fracture.

▪ **Local:**

- CVS manifestations: bleeding
- Airway: hemoptysis, dyspnea, hoarseness of voice, dysphonia
- GIT: dysphagia, hematemesis
- CNS: parathesia, hemiparesis/paralysis

→ **Signs:** of

- 1- Arterial injury: hard signs/ soft signs
presence of pulse doesn't exclude arterial injury
- 2- Respiratory: stridor, crepitus(sub.cutaneous emphysema), tenderness of the trachea
- 3- Neurological deficit:
 - Spinal cord injury: e.g. quadreplagia, hemiplagia, priapism, urinary retention,
 - Brachial plexus injury(C5-C7 roots): sensory & motor loss in the upper arm
 - Nerve injury: e.g. phrenic N. injury → paralysis of diaphragm
 - Cranial N. injury (V, IX, X, XI, XII), Horner syndrome
- 4- Visceral injury: Ht: cardiac tamponade
Chest: hemothorax

COMPLICATIONS

1. Tracheal/laryngeal edema or stenosis
2. Vocal cord paralysis
3. Aspiration & pulmonary complications
4. False aneurysm, A-V fistula
5. TES fistula
6. Air embolism
7. Wound infection

DD

- Dissecting aortic aneurysm
- Spinal cord infections
- Acute disc prolapse

MANAGEMENT

❖ **Pre-hospital management**

1. Ensure patient airway + support of mandible forwards.
2. Ensure adequate ventilation
3. Control any apparent bleeding by tourniquet or compression.
4. Cover any wound with sterile dressing
5. Avoid flexion of the spine to avoid dislocation in unstable spine injuries.
6. Inform the hospital to activate the trauma team prior to arrival of the accident

❖ **At hospital**

I. Primary survey
ABCDE

A. Airway:

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- Easily detection and correction of pneumothorax, cardiac tamponade, hemothorax, bronco-pleural fistula or lung laceration or surgical emphysema.

SELF-ASSESSMENT- PART -II

C. Circulation:

- Control bleeding by local compression or tourniquet.
- Treatment of shock either hypovolemic, cardiac or neurogenic.

D. Disability:

- Any fracture should be splinted to relieve pain and avoid soft tissue injury until fixation is done

E. Exposure:

- Of the patient to detect any soft issue, vascular orthopedic injury.
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II. Secondary Survey

This phase includes:

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▪ Neck: neck collar for fixation:

- Absent pain or neurological signs does not exclude injury.

▪ Chest: Penumothorax, hemothorax, cardiac tamponade.

▪ Abdomen:

▪ Neurological: Glasgow coma scale

▪ Limbs: for fracture and neurovascular bundle.

2. History of any (AMPLE H/O):

- Allergies
- Past medical history
- Event of injury
- Medications
- Last meal

3. Urgent investigations after basic life support:

▪ Laboratory:

- HB%, glucose level, Kidney functions, PO_2 , PCO_2 , NA^+ , K^+ .

▪ Radiological:

- Plain X-ray: chest, spine and skeletal or visceral injuries.
- CT and MRI: chest, abdominal or head traumas.
- Conventional angiography
- Colored Doppler: Ar. Injury
- Gastrographin study

▪ Instrumental:

- Endoscopic studies: laryngoscopy, bronchoscopy, esophogoscpy

▪ Urgent surgical exploration of penetrating wound is indicated in the following:

1. Control blood loss, expanding hematoma, shock
2. Airway obstruction
3. Neurological deficit
4. Hemoptysis or hematmsis

III. Definitive treatment

→ During 2ry survey after stabilization of the patient, we can detect definitive injury by its specific clinical pic. & specific investigations & deal with the patient according to the type of injury & priorities.

PROGNOSIS

- Zone I: the worst prognosis with inc. morbidity & mortality
- Zone II: the most common & have the best prognosis

Stab Wound in the Femoral Triangle

INTRODUCTION

→ Anatomy of the femoral triangle:

- It's a subfascial space occupying the front of the upper one third of the thigh just below the inguinal ligament.
- **Boundries:** lat: medial border of Sartorius
Med: medial border of the adductor longus
Base: ing. Ligament
Apex: meeting of Sartorius & adductor longus
- **Floor:** from medial to lateral :adductor longus, pectinus, psoas major, iliacus Ms
- **Roof:** skin, superficial fascia, deep fascia & in between great saphenous vein & ilioinguinal N.
- **Contents:**
 - Femoral ar. & its superficial branch
 - Femoral vein
 - Femoral branch of genitofemoral N
 - Femoral N. outside the femoral sheath
 - Inguinal LNs

} Inside femoral sheath

INCIDENCE

- Represent 3% of the major injuries in the causality
- More in males esp. at the age of 1-44 yrs

ETIOLOGY

- a- **Open trauma(penetrating):** the commonest: gunshot, stab wound, iatrogenic
- b- **Closed trauma(blunt):** e.g. car accident, crush injury

PATHOPHYSIOLOGY

- **Musculoskeletal:** Ms(as above), tendons, femur
- **Neurological injuries:** femoral N.& it's branch saphenous N.
- **Vascular injuries:** femoral A. & its superficial Branches & femoral vein, great saphenous vein
- **Associated structures**

CLINICAL PICTURE

→ History of trauma (ask about mechanism of injury), pain at the site of trauma

→ Symptoms:

- **General:** - Shock :
 - 1- Hypovolemic shock: rapid weak pulse, hypotension, subnormal temp. cold extremities, palor, oliguria.
 - 2- Neurogenic shock
 - Associated abdominal injuries, fracture.
- **Local:**
 - **Neurological:** parathesia esp. in the anteromedial part of the thigh or along saphenous N. distribution
 - **Vascular:** bleeding, pulsating swelling, hematoma, acute ischemia (6ps) crush injury or compartmental syndrome
 - **Musculoskeletal:** inability to move the limb

→ Signs:

- Arterial: hard signs/soft signs
- Venous: DVT: painful swollen limb
- Neurological: weak hip flexion, weak knee extension
Sensory deficit in the medial side of the leg

SELF-ASSESSMENT- PART -II

COMPLICATIONS

- 1- False aneurysm, A-V fistula
- 2- Wound infection
- 3- Chronic ischemia & gangrene
- 4- Compartmental syndrome
- 5- Air embolism

DD

1. Femoral A. aneurysm
2. Swelling in the femoral triangle (see before)

MANAGEMENT AS POLYTRAUMATIZED PATIENT

❖ Pre-hospital management

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2. Ensure adequate ventilation
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5. Avoid flexion of the spine to avoid dislocation in unstable spine injuries.
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❖ At hospital

I. Primary survey **ABCDE**

A. Airway:

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C. Circulation:

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II. Secondary Survey

This phase includes:

1. Head to toe examination of undressed & stable patient

▪ Head examination:

- Injuries
- Eye (pupil → size and reaction).
- Mouth
- Ear and nose

▪ Neck: neck collar for fixation:

- Absent pain or neurological signs does not exclude injury.

▪ Chest: Penumothorax , hemothorax, cardiac tamponade.

▪ Abdomen:

▪ Neurological: Glasgow coma scale

▪ Limbs: for fracture and neurovascular bundle.

SELF-ASSESSMENT- PART -II

2. History of any (AMPLE H/O):

- Allergies
- Past medical history
- Event of injury
- Medications
- Last meal

3. Urgent investigations after basic life support:

▪ Laboratory:

- HB%, glucose level, Kidney functions, PO_2 , PCO_2 , NA^+ , K^+ .

▪ Radiological:

- Plain X-ray: chest, spine and skeletal or visceral injuries.
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▪ Instrumental:

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1. Control blood loss, expanding hematoma, shock
2. Airway obstruction
3. Neurological deficit
4. Hemoptysis or hematemesis

III. Definitive treatment

- During 2ry survey after stabilization of the patient, we can detect definitive injury by its specific clinical picture & specific investigations & deal with the patient according to the type of injury & priorities.

DD of lip ulcers

DEFINITION

- It's a break in the mucous membrane or the epithelium of the lips or surrounding the mouth

★ Causes

i- Trauma;

- Minor physical injuries e.g. sharp tooth, ill-fitting dentures
- Chemical injuries e.g. Aspirin, alcohol with prolonged contact

ii- Infection:

- Viral: the commonest is herpes simplex virus
- Bacterial: e.g. TB., syphilis or opportunistic by the nasal bact. flora
- Fungal: e.g. cryptococcus
- Protozoal: E.histolytica

iii- Immunology:

- Apthus ulcer
- immunodeficiency as in HIV
- autoimmune, allergy

iv- Dietary: malnutrition e.g. Vit. C deficiency, Vit. B12 deficiency

v- Cancer: basal cell carcinoma, sq. cell carcinoma, melanoma

vi- Medical conditions ass. with mouth ulcers: e.g.

- | | |
|--------------------------|--------------------|
| Oral thrush | Behcet's ds. |
| Gingivostomatitis | Systemic lupus |
| Infectious mononucleosis | Celiac ds. |
| Leukoplakia | Ulcerative colitis |
| Oral lichen planus | Chron's ds |

★ Discuss:

- The commonest lip ulcer is apthous ulcer
- The 2nd most common is Herpes simplex virus (known as cold ulcer)
- The most serious is malignant ulcer (sq. cell carcinoma)

1- Aphthous ulcer:

- It's a very common ulcer.
- Occurs in 10% of the population
- More common in females esp. with +ve family history
- Etiology:** unknown
- C/P:**
 - Burning pain(very painful) - Edematous lips
 - Superficial yellow ulcers
 - Few mm in diameter & surrounded by red hyperemic halo
 - Heals within 1 or 2 weeks, but may be multiple recurrent & chronic
 - Needs no specific treatment except for bland mouth wash & ttt of dyspepsia

2- Herpetic ulcer: (known as cold ulcers)

- Etiology:** caused by herpes simplex type I or II
- C/P:**
 - Unilateral eruption of small vesicles on the skin & mm
 - They don't cross the midline
 - After they rupture they leave small superficial areas of ulcerations later on forming characteristic scab
 - They are extremely painful.
- INV:** it's a clinical diagnosis
- TTT:** only symptomatic e.g. analgesics, antihistaminics, we may give antiviral

3- Malignant ulcer:

- **Incidence:** male, old age,
- **History of the PDF:** eg. smoking, alcohol, prolonged exposure to sun
- **C/P:**
 - ✓ **Symptoms:**
 - Painful ulcer, edematous lips, manifestations of metastasis.
 - ✓ **Signs:**
 - **Site:** lower lip is more common esp at the mucocut. junction
 - **No:** usually starts as a single cauliflower mass or flat nodule then ulcerates
 - **Shape:** oval, rounded or irregular
 - **Edge:** raised, everted edge
 - **Floor:** necrotic tissue
 - **Margin:** may be infiltrated with necrotic tissue
 - **Base:** indurated, later on fixed
 - **LN:** enlarged, hard early mobile & later on fixed
 - If in the lower lip → in the middle part → submental LN
→ in the lateral part → submandibular LN
 - If in the upper lip: submandibular LN on both sides
- **INV:** biopsy

Chronic Leg Ulcer

1. Chronic traumatic ulcers

- It is first produced by trauma then it becomes chronic from negligence and repeated infection.
- Finally it becomes fixed to the bone and it prevents contraction of the base of the ulcer and interferes with the growth of the epithelium.
- **Causes:** wounds, burns, radiation, bedsores
- **Characters:**
 - **Number:** Usually Single.
 - **Site:** Skin over Medial Side of Tibia or Bony Prominence.
 - **Edges:** Punched Out.
 - **Floor:** Healthy or Unhealthy Granulations.
 - **Base:** Indurated.
 - **Margin:** Pigmentation or Inflammation.
 - **Discharge:** Serous or Purulent.
 - **Inguinal L.N.:** Firm, Tender, Mobile.
- **Treatment:**
 - **Conservative:** Like Varicose Ulcer.
 - **Surgery:** Cover with Skin Graft or Flap.

2. Inflammatory ulcers

- a- Chronic osteomyelitis ulcer: see orthopedics.
- b- Chronic specific ulcers: rare, T.B., syphilis, madura foot discharging sulphur granules.

→ Syphilitic ulcer

- It is rare nowadays.
- **Site:** it occurs on the medial surface of the upper third of the tibia.
- **Number:** it may be solitary or multiple.
- **Edge:** is punched out and may be serpiginous.
- **Floor:** is covered with yellowish (wash leather) slough.
- **Base:** may be fixed to bone.
- **W.R.** is positive.

→ **Tuberculous Ulcer:**

- It results from the breaking out of a tuberculous or osteitis.
- Edge: thin undermined.
- Margin: bluish.
- Floor: pale granulation tissue.
- Base: slight induration.

3. Neoplastic ulcers

- Primary skin tumors as squamous cell carcinoma, melanoma
- Marjolin's ulcer on top of chronic benign ulcer .
- Ulcerating deep malignancy as osteosarcoma, fibro sarcoma.

A- SQUAMOUS CELL CARCINOMA:

- Site: any site covered with sq. epith. or on top of squamos metaplasia
- C/P: male > 40 yrs, fair colored skin, farmer
- History of chronic venous ulcer or prolonged irritation by chemical.
- Pathology
 - Shape: rounded, irregular
 - No: usu. single may be multiple
 - Base: indurated early mobile, later on fixed
 - Floor: necrotic
 - Edge: raised & everted
 - Margin: early soft, later on indurated
 - LN: enlarged, hard & fixed

B- IMALIGNANT MELANOMA:

- either Denovo or on top of benign melanoma
- Type of patient: Male, middle or old age, history of prolonged exposure to sunlight
- C/P: starts as a nodule which grows rapidly then ulcerates
- Ulcer:
 - Painful, irregular edge, surr. by satellites, change in color, bleeding
 - Enlarged LNs hard early mobile later on fixed
 - Liver metastasis

4. Vascular ulcers

I- VENOUS ULCER:

- Clinical picture
 - a. C/P of the cause:
 - DVT (classical triade of pain, swelling, tenderness)
 - Varicose veins : dull aching pain & heaviness of LL especially with prolonged standing & relieved by elevation of LL.
 - But, in 50% of cases , no manifestation of VV & the Ulcer is due to incoptent ankle perforators only.
 - b. C/P of the ulcer:
 - Site: in the gaiter area just above the medial malleolus
 - Number: usually solitary
 - Floor: infected ulcer → dirty granulations tissue
non-infected ulcer → healthy granulation tissue
 - Base: indurated
 - Edge: at 1st irregular& sloping then punched out.
 - Margin: pigmented
 - LN: +ve if 2ry infection
- INV: for the cause: Doppler, Duplex & Biopsy if suspecting malignancy

II- ISCHEMIC ULCER:▪ **Clinical picture**

→ Male 50 Yrs, obese, DM, HTN.

a. **Of the cause: (chronic uschemia)**

- Claudication pain(↑ by walking, relieved by rest)
- Rest pain(burning pain in the dorsum of the foot awakens patient from the sleep)
- Associated symptoms e.g. IHDs (angina pectoris)

b. **Of the ulcer:** pale cold ischemic limb with trophic changes.

- **Site:** between the toes, in the dorsum of the foot or around the maleoli
- **No:** usu. solitary may be multiple
- **Floor:** infected ulcer → dirty granulations tissue
non-infected ulcer → healthy granulation tissue
- **Base:** difficult to be palpated (very tender)
- **Edge:** punched out.
- **Margin:** hypermic
- **LN:** +ve if 2ry infection

▪ **INV:** For the cause: Doppler, Duplex: shows ↓ bl. flow

Angiography: pre-operative especially if ulcer resistant for healing

Other sys.: CBC, ECG, Lipid profile.

III-NEUROPATHIC ULCER:▪ **Clinical picture**→ **History** of neurological lesion e.g. P.N, N. injury, D.M.→ **of the ulcer:** painless ulcer

- **site:** sole of the foot, at the ball of the big toe or the heal.
- **No:** usu. solitary may be multiple
- **Floor:** infected ulcer → dirty granulations tissue
non-infected ulcer → healthy granulation tissue
- **Base:** deep penetrating to the under lying bone & joints.
- **Edge:** punched out.
- **LN:** +ve if 2ry infection

▪ **INV:** for the cause: FBS, EMG, C&S if discharging pus.**5. Blood disease**

- Sickle cell crisis

6. Autoimmune diseases

- SLE, Rheumatoid arthritis

Cancer lip

INCIDENCE

- Male, >50 yrs

PDF FACTORS

- Chronic irritation:** septic irregular teeth, smoking, prolonged exposure to sun, spirits(alcohol), spicy food,
- Hereditary:** genetic mutation, Le Fraumini syndrome
- Benign lesion:** papilloma by human papilloma virus, leukoplacia

PATHOLOGY

- > **Site:** lower lip is more common esp. at the mucocutaneous junction
- > **Macroscopic:**
 - **No:** usually starts as a single cauliflower mass or flat nodule then ulcerates
 - **Shape:** oval, rounded or irregular
 - **Edge:** raised, everted edge
 - **Floor:** necrotic tissue
 - **Margin:** may be infiltrated with necrotic tissue
 - **Base:** indurated, later on fixed
 - **LN:** enlarged, hard early mobile & later on fixed
- > **Microscopic:**
 - SCC: in 90 % insitu or invasive or adenocarcinoma on top of leukoplaqia

SPREAD

- Direct:** to the tongue, or to the floor of the mouth
- Lymphatic:**
 - if in the lower lip → in the middle part → submental LN
 - in the lateral part → submandibular LN
 - If in the upper lip: submandibular LN on both sides
- Blood:** late to the lung & bones, usu. the patient dies before this stage

CLINICAL PICTURE

- **Symptoms:**
 - Skin lump, nodule, ulcer,
 - Pain is usually late in advanced cases
 - Lip pruritis, bleeding
- **Signs:**
 - Papillary or cauliflower mass
 - Ulcer(as macroscopic picture)
 - Palpable LNs: hard early mobile& later on fixed

COMPLICATION

- Inhalation pneumonia
- Infection & 2ndry hemorrhage
- Cachexia due to starvation

INVESTIGATIONS

- Routine:** CBC, FBS, KFTs, CXR, ECG
- Biopsy:** best is excisional with one cm safety margin
- Staging:** CT scan, bone scan, & abdominal US

TREATMENT

A. Surgical excision:

- Tumor with **no LN affection** → excision with safety margin 1 cm
- Tumor with **LN affection** → commando operation
 - Removal of: part of the lip including the tumor, part of the tongue, part of the floor of the mouth, 1/2 of the mandible
 - Block dissection of the LNs
 - Plastic surgery(myocutaneous flap)

B. Radiotherapy:▪ **Indications:**

- Late cases as palliative
- After surgery

▪ **Methods:**

- Interstitial irradiation → radium needles:
 - inserted into the base of the ulcer & removed after 1 week
- External beam irradiation

▪ **Side effects:**

- Oral stomatitis
- Xerostomia
- Loss of taste

Bronchiectasis

DEFINITION

- It's a pathological irreversible infective dilation of the bronchi & bronchioles

ETIOLOGY**i. Congenital:**

- Immotile cilia syndrome e.g. Kartagener syndrome
- Congenital immune def.
- Congenital polycystic lung

ii. Acquired:

- Obstruction: complete e.g. total lung collapse
partial e.g. chronic bronchitis, COPD
- Infection: lung abscess or pneumonia
- T.B: both bronchial stenosis & infection

PATHOLOGY

- Obstruction (stasis with inc. of the intrabronchial pr.) \longleftrightarrow infection destroys the bronchial wall with inc of the bronchial secretions → dilated & suppurated bronchi & bronchioles → bronchiectasis
- **Site:**
 - Commonly bilateral & basal (areas of poor drainage)
 - Apical on top of T.B

CLINICAL PICTURE➤ **Symptoms:**

- **General:** FAHM, marked toxemia
- **Local:**
 - cavitory \$ (foited sputum ↑ on stooping forward)
 - Hemoptysis
 - Dyspnea
 - Chest pain

➤ **Signs:**

- **General: toxemia**
 - Clubbing, puffiness of the eye lids (chronic cough)
 - Edema due to (corpulmonale – hypoproteinemia – amyloidosis of the kidney)

SELF-ASSESSMENT- PART-II

▪ Local:

- Inspection: diminished chest movement
- Palpation: ↑ TVF in lower lung zone (cavity)
↓ TVF in the upper lung zone (compensatory emphysema)
- Percussion: dullness in lower lung zone (cavity)
Hyperresonance in the upper lung zone (compensatory emphysema)
- Auscultation: ronchi, creptations, diminished air entry

COMPLICATIONS

▪ General:

- Toxemia
- Amyloidosis
- Septicemia, septic shock

▪ Local:

- Lung abscess
- Pneumonia
- Pleurisy & empyema
- Fibrosis
- Cor pulmonale

INVESTIGATIONS

▪ Laboratory:

- CBC.: TLC, ESR, CRP
- Culture & sensitivity from the sputum

▪ Radiological:

- Plain X-ray → honey comb appearance
- Bronchography
- CT scan is the most accurate

▪ others:

- Pulmonary func. test

TREATMENT

- 1- Postural drainage of the sputum
- 2- Abs according to C&S by injection (e.g. cephalosporins) or by inhalation
- 3- Expectorant & bronchial dilator for bronchial drainage
- 4- Surgery: (lobectomy) for localized lesion causing persistent infection

SELF-ASSESSMENT- PART -II

➤ Local causes of bleeding from different orifices:

		Vascular	Inflammatory	Traumatic	Neoplastic	Others
Hematemesis	Esophageal causes	Esophageal varices	Reflux esophagitis	Mallory weis syndrome	Esophageal carcinoma	
	Gastric causes	Hereditary hemorrhagic telangiectasia	<ul style="list-style-type: none"> Multiple gastric erosions. Acute gastritis. Gastric ulcer. 		<ul style="list-style-type: none"> Gastric carcinoma. Leiomyoma. Gastric polyp. 	
	Duodenal causes	Aorto-duodenal fistula.	Pudendal ulcer		Peri-ampullary carcinoma.	
Bleeding per rectum	Anorectal causes	Hemorrhoids.		Anal fissure	<ul style="list-style-type: none"> Rectal carcinoma. Anal carcinoma. 	
	Intestinal causes	<ul style="list-style-type: none"> Mesenteric infarction Intussusception. Angiodysplasia. 	<ul style="list-style-type: none"> Amebic dysentery. Crohn's disease. Ulcerative colitis. Bilharzial colitis. Diverticular disease. Meckle's diverticulum. 		<ul style="list-style-type: none"> Colonic carcinoma. Colonic & small intestinal polypi (e.g. FPC) 	
	Esophageal & gastro-duodenal causes	Esophageal varices	PU			
Hematuria	Renal causes	Renal infarction	Acute glomerulonephritis. TB.	<ul style="list-style-type: none"> Renal stones. Renal trauma. 	<ul style="list-style-type: none"> Hypernephroma. Wilm's tumor. Transitional cell carcinoma. 	Polycystic kidney.
	Ureteric causes			<ul style="list-style-type: none"> Ureteric stones. Ureteric trauma. 	Transitional cell carcinoma.	
	Bladder causes		Cystitis: Non-specific, specific (TB, bilharzial)	UB stones.	<ul style="list-style-type: none"> Transitional cell carcinoma. Squamous cell carcinoma. 	
	Prostatic		TB prostatitis		Prostatic cancer	SPE
	Urethral		Urethritis	<ul style="list-style-type: none"> Urethral stones. Urethral injury. 	Urethral neoplasm.	

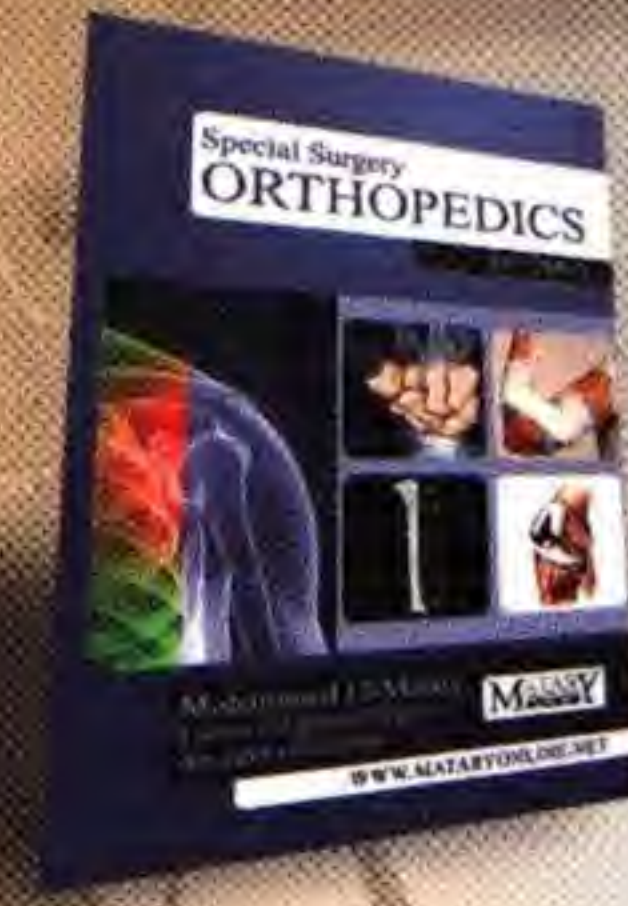
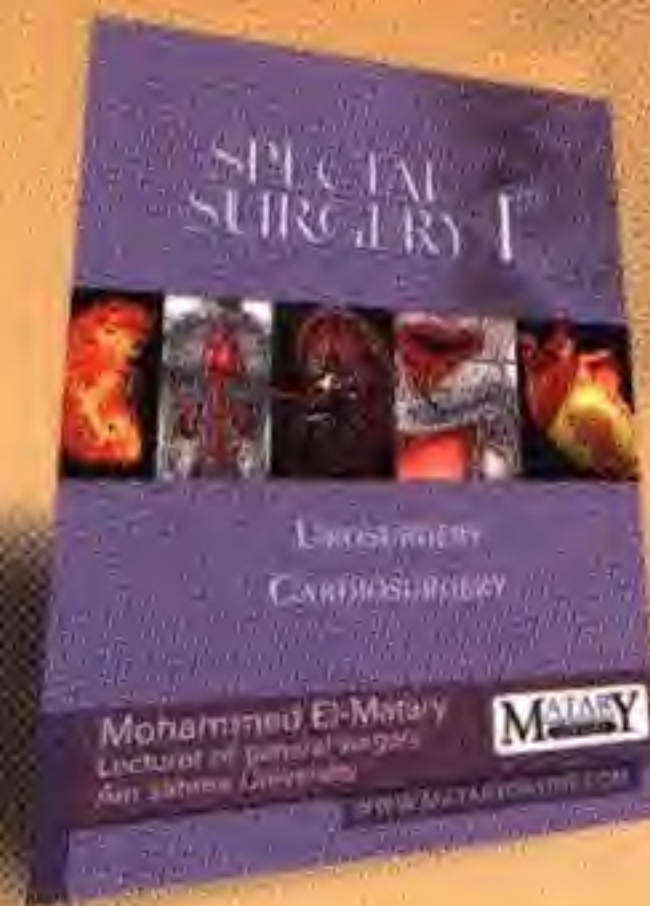
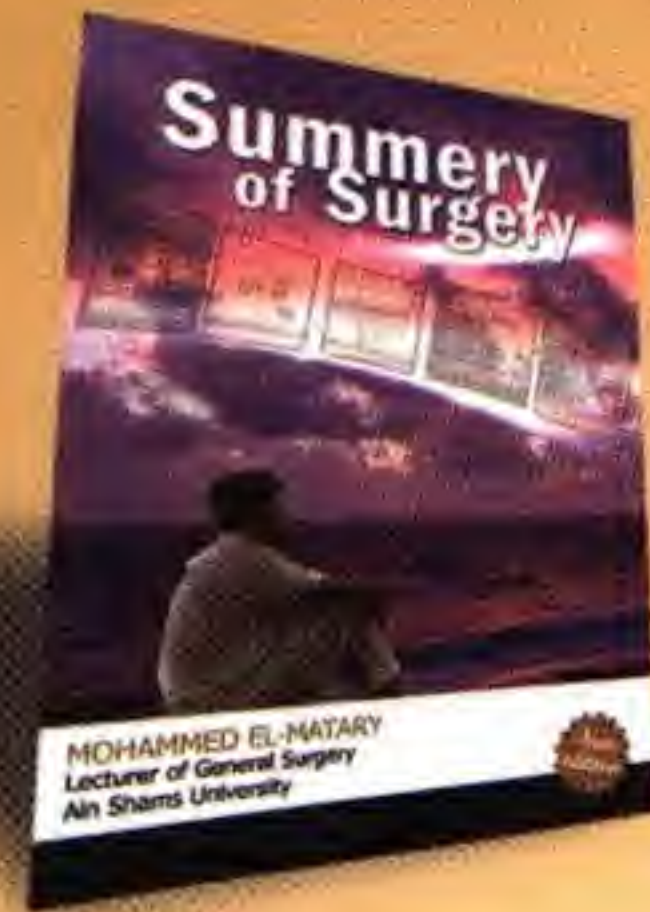
SELF-ASSESSMENT- PART -II

> Swellings specific to different abdominal lesions:

			Rt. hypo- chondrium	Lt. hypo- chondrium	Rt. Iliac fossa	Lt. iliac fossa	Epigastrium	Umbilical region	Supra- pubic region
Visceral	GIT	Gastro-enteric	Hepatic flexure	Splenic flexure	-Ileum. -Caecum. -Appendix.	Pelvic colon	-Transverse colon & greater omentum. -Stomach.	-Transverse colon & greater omentum . -Stomach. -mesentry	Sigmoid colon.
		GB, splee & pancr	-Liver. -GB. -Pancreas.	-Spleen. -Pancreas.			-Liver (Lt. lobe). -Pancreas.		
	Uro-genital	Urinary	-Kidney. -Suprarenal gland		Kidney.				
		Genital			Tubo-ovarian				-Uterus & adnexa e. -UB
	Vascular				-Iliac artery. -Iliac LNs.		- Abdominal Aorta. - Aortic LNs.		
Musculo- skeletal	Muscular Skeletal				Ilio-psoas abscess				



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Books by the Author

Self Assessment

Differential Diagnosis

- . Basics of General Surgery
- . Vascular Surgery
- . Gastrointestinal Surgery
- . Special Surgery
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- . Operative Surgery
- . Surgical Instruments
- . Surgical Anatomy

